NTNU – Trondheim
Norwegian University of
Science and Technology

Public Sector Innovation

An Empirical Study on Managers in the
Norwegian Public Sector

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- uttak av masteroppgave

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3. Masteroppgave

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Oppgavetekst/Problembeskrivelse The purpose of this master thesis is to study managers in the Norwegian public sector and evaluate how they understand, as well as create conditions for innovation in their organizations. The thesis will consist of the following parts: 1. A review of the existing literature and theories on public sector innovation 2. An empirical study on public sector managers 3. An analysis and evaluation of the empirical study 4. Conclusions and implications of the findings	
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4. Underskrift

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Trondheim 23.05.2014
Sted og dato

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Kandidatene skal ha *individuell* bedømmelse
Kandidatene skal ha *felles* bedømmelse

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Originalen oppbevares på instituttet.

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PROBLEM DESCRIPTION

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Assignment given January 15th, 2014

Supervisor: Associate Professor Ola Edvin Vie

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ABSTRACT

Innovation in the public sector is crucial in order to maintain the high levels of welfare services the public sector provides, and for the public sector to be able to address the economic and societal challenges it face. This master thesis studies the topic of public sector innovation from a managerial perspective. The thesis is paper-based, thus the main academic contribution can be found in the appended papers. The opening document includes an introduction to the research field of public sector innovation. The two appended papers are based on an empirical study of managers in Norwegian public sector organizations.

Paper one investigates how managers understand and view central concepts of innovation, as well as the managerial role and responsibility related to innovation. Although the study suggest that the managers understand innovation on a conceptual level, the managers' lack of precision in the understanding of innovation call for the establishment of a common definition of the concept for the public sector. The analysis shows that managers struggled with issues such as; novelty, degree of change necessary, and the implementation phase, when discussing what constitutes innovation. The understanding of the managerial role, and responsibilities regarding innovation, is further found to differ between public sector organizations.

Paper two investigates the influence the environmental context may have on public organizations' innovative abilities. The organizations' ability to innovate is found closely connected to the ability to adapt to an altered environment. Thus, the findings indicate that the environmental context of the organization does influence and affect the organization's innovative abilities. Managers in organizations at agency level are further found to show more permeable to the organizations' environmental context, compared to managers at ministerial level. This could be explained by more frequent interaction and involvement with external actors for the organizations at agency level.

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Innovasjon i offentlig sektor er avgjørende for å opprettholde det høye nivået på velferdstjenestene som det offentlig sektor leverer, og for at offentlig sektor skal være i stand til å møte de økonomiske og samfunnsmessige utfordringene som fremtiden bringer. Denne masteroppgaven studerer temaet innovasjon i offentlig sektor fra et ledelsesperspektiv. Siden denne oppgaven er artikkelbasert, vil det akademiske bidraget fra denne masteroppgaven hovedsakelig ligge i de vedlagte artiklene. Åpningsdokumentet inkluderer en introduksjon til forskningsfeltet som innovasjon i offentlig sektor utgjør. De to vedlagte artiklene er basert på en empirisk studie av ledere i norske offentlige organisasjoner.

Den første artikkelen undersøker hvordan ledere tolker og anser sentrale konsepter angående innovasjon, i tillegg til lederes rolle og ansvar vedrørende innovasjon. Dette studiet viser at ledere i norsk offentlig sektor forstår innovasjon på et konseptuelt nivå. Likevel antyder ledernes manglende presisjon i forståelsen av innovasjon at det er behov for å etablere en felles definisjon for konseptet, spesielt for offentlig sektor. Analysen avdekket at lederne opplevde spesielt temaer som nyhetsgrad, nødvendig endringsgrad og implementeringsfasen som utfordrende ved diskusjon om hva som utgjør innovasjon. Forståelsen av lederes rolle og ansvar i forbindelse med innovasjon ble videre funnet til å variere mellom offentlige organisasjoner.

Artikkel to undersøker innflytelsen som offentlige organisasjoners miljømessige kontekst kan ha på deres innovasjonskapabiliteter. Organisasjonens evne til å innovere blir funnet til å være nært knyttet til evnen til å tilpasse seg til endringer i omgivelsene. Dette studiet avdekket dermed at organisasjoners omgivelser har en innflytning på deres innovative evner. Ledere på etatsnivå blir identifisert som mer mottakelig for innflytelse fra organisasjonens omgivelser, sammenlignet med ledere på departementsnivå. Dette kan forklares ved at organisasjoner på etatsnivå hyppigere interagerer med, og involverer, eksterne aktører.

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1. INTRODUCTION

Effective public sectors depend on innovation in order to create new ways of developing better solutions for the citizens in the society (Mulgan and Albury, 2003). Innovation in the public sector is crucial in order to maintain the high levels of welfare services the public sector provides, and for the public sector to be able to address the economic and societal challenges it face (Bloch and Bugge, 2013). The attention public sector innovation has received from the research community has yet to reflect its importance (Potts and Kastelle, 2010; Mulgan and Albury, 2003).

This thesis aims at contributing to the field of public sector innovation research by studying the topic through a managerial perspective. The purpose of this is to study managers in the public sector and evaluate how they understand, as well as create conditions for, innovation in their organizations. This thesis is paper-based, thus the reader should focus mainly on the appended papers, as the main academic contributions are found in these. Paper one seeks to explore how managers in public organizations view and understand central concepts, as well as their own role, related to innovation and the innovation process. Paper two takes a broader approach to the topic of innovation in the public sector. The aim of paper two is to study the influence from the organization's environmental context, and evaluate how this can affect the organization's innovative abilities.

The structure of this opening document is as follows; the next section will contain a brief introduction to the importance of public sector innovation. This is important to provide the readers with a sufficient understanding of the phenomenon in focus in this master thesis. Following this introduction to public sector innovation, the methodology used for this master thesis will be introduced in section 2. The methodology section will first describe the method used in the literature review, before the research design for the empirical study will be presented. Section 3 of this opening document will contain a summary of the appended papers. Lastly, section 4 will draw some conclusions and implications this thesis can have.

1.1 WHY INNOVATE IN THE PUBLIC SECTOR

The role of, and the need for, innovation for economic competitiveness and development have long been recognized by governments and policy makers, as it is presented as a critical element for economic performance (Storey and Salaman, 2005). During the last decades, the pressure on the public sector to increase efficiency and improve performance has shifted towards a more challenging task; to develop and offer 'personalized' public services (Alves, 2013; Albury, 2005; Meld.St. 7., (2008-2009); Du Gay, 1993). The public sector is expected to offer services that are responsive to the individuals', as well as communities' needs and aspirations. Due to an increased diversity and heterogeneous society, which expects tailored and top-quality services, the traditionally labeled 'one size fits all' services, if they ever existed, are no longer relevant (Albury, 2005).

The public sector needs to innovate in order to renew and work smarter, in contrast to spending more resources and labor as a solution to the major challenges (Meld.St. 7., (2008-2009)). The ability of a government to create value from public resources is essential to efficient and effective government (Klein, Mahoney, McGahan and Pitelis, 2013).

Despite the neoliberal critique of the public sector as little innovative, the public sector has innovated a lot, and undergone significant changes in the postwar period (Sørensen and Torfing, 2011). However, Eggers and Singh (2009) argue that innovation in the public sector is driven by accidental events, and that public organizations do not have a lasting capacity to innovate. According to Sørensen and Torfing (2011), this suggests the need for an innovation agenda in order to incorporate innovation as a permanent and systematic activity.

1.2 PUBLIC INNOVATION AS A RESEARCH FIELD

Innovation has been subject to much research throughout the years, but the emphasis has not been on public sector innovation. Rather, the field of innovation in private sector and businesses has flourished. Moore and Hartley (2008) argue that this trend is due to two factors; first, innovation has traditionally been given a more important role in the private sector. Second, the literature and knowledge is greater on management in the private sector compared to the public sector. This research has contributed to an increase in the knowledge and insights on the innovation processes, and the effects and consequences of these (Bloch and Bugge, 2013; Albury, 2005; Moore and Hartley, 2008). There is no doubt that the research on private sector innovation has contributed to an increased awareness and insights to the underlying process of innovation (Bloch and Bugge, 2013).

The main body of research on public sector innovation has traditionally followed two streams (Arundel and Hollanders, 2011). The first assumes that innovation strategies and processes in the private sector firms are applicable to the public sector. The second stream has primarily focused on the differences in these innovation processes, and emphasizes that a model for innovation for firms in the private sector is not applicable for public agencies (Arundel and Hollanders, 2011).

The field of public sector innovation has seen some research over the last decade. With the introduction of New Public Management (NPM), public organizations were to introduce managerial and structural features from the private sector into public organizations and bureaus (Godø, 2009; Poole, Mansfield and Williams, 2006). Such features include management by goals and objectives (Meld.St. 7., (2008-2009)), total quality control, competitive tendering, consumer choice and performance management (Poole et al., 2006). The introduction of NPM was based on an assumption that private market practices were superior, and should be introduced in the public sector in order to create successful governmental administration (Poole et al., 2006).

The NPM movement includes a shift towards output and outcomes, rather than input and processes, measurements and quantification of the public sector administration and its services (Poole et al., 2006). For the Norwegian public sector, the introduction of NPM has involved two components; management by goal- and performance, and organizational structural devolution (Christensen Egeberg, Larsen, Lægreid and Roness, 2010). With the introduction of NPM, decision-making close to the users, and user satisfaction, are highlighted as important criteria for successful public management (Klausen, 2005).

Compared to other OECD countries, the Norwegian economy has some special features. First, it has historically been heavily based on natural resources such as fish, timber, iron ore and hydropower (Arbo, 2009). With the introduction of oil and gas, the Norwegian economy has become more dependent on natural resources. Second, a high proportion of the national GDP goes to the public administration, as a result of the large public sector and state owned enterprises (Arbo, 2009). Third, even when corrected for industrial

composition, the level of innovation in Norway is lower when compared to our neighboring countries (Arbo, 2009).

The public sector plays a key role in the distribution and creation of knowledge in the society (Windrum, 2008). With a large and comprehensive public sector, it is important, and in the population's best interest, that it is run in the most efficient and best possible way. This includes a constant search and desire to find new and better solutions to provide welfare to the public (Teigen, 2007). In order for the Norwegian public sector to be able to meet the challenges it face, it is important to develop knowledge on how the working environment can be organized for improved service for both users and employees (Meld.St. nr. 7., (2008-2009)). The Norwegian government has signaled that innovation in the public sector will be a priority for the future, and will attempt to reduce or remove obstacles for innovation in the public sector. Such obstacles can be either of organizational, legislative or technical origin. However, it must be emphasized that the reduction or removal of these can only be performed if it does not compromise other public interests (Meld.St. 7., (2008-2009)).

In addition to cost reduction as a result of innovation in the public sector, other benefits such as increased citizen satisfaction, improved image of the public sector and innovation boost in the private sector can follow (Alves, 2013). Hence, studying innovation in the public sector is fundamentally important as it affects multiple aspects of the society (Alves, 2013).

Based on the insight the literature has provided, Storey and Salaman (2005) argue that innovation is key for economic growth and national competitiveness, especially in a globalized world with ever-increasing availability, and use of information technology that results in intensification of competition.

2. METHODOLOGY

The following section will describe the methodology used for the research for this master thesis. As an introduction to this section, we will first present the motivation and point of departure. This sub-section will contain a description of why and how we as researchers became interested in the topic of innovation in the public sector, and why the managerial perspective intrigued us to perform the empirical study this master thesis represents.

Following the point of departure, we will turn our attention to the methodology used for the literature study conducted for this thesis. Following the description and reflection on the methodology behind the literature search, we will explore the research design used for the empirical study. The sub-section will draw up some reflections and evaluations regarding the methodology. This last section addresses some potential limitation to the research designs.

It should be noted that this section includes an overall description, and some reflections, on the applied research method. For a more specific and detailed description, we would attract the reader's attention to the methodology sections in the appended papers.

2.1 POINT OF DEPARTURE

While innovation in the private sector is well researched, innovation in the public sector has historically been given less attention by scholars. However, the last 15 years have seen an increase in interest from scholars, governments, and the media (Arundel and Huber, 2013; Mulgan, 2007).

The choice of studying managers in the Norwegian public sector and how they relate to, understand, and work towards creating conditions for, innovation, was chosen when writing our project thesis during the fall semester 2013, titled *'Public Sector Innovation: Enhancing Public organizations' innovative abilities'*. Our project thesis focused on drivers and barriers for innovation in the public sector, and was a review of existing literature from multiple fields of science. During the work with our project thesis, we became interested in the role of managers and leaders regarding innovation, as we identified the key role managers have with regards to innovation and the innovation process. Thus, the groundwork for this master thesis was laid with the work on our project thesis.

The public sector can be characterized as hierarchical, with clear lines of command, a culture of risk aversion, lack of incentives, and dominated by silo thinking (Borins, 2001, 2002; Mulgan and Albury, 2003; Koch and Hauknes, 2005; Bloch, 2011; Windrum, 2008). In this environment, the role of managers is important with regards to innovation and the innovation process. Because of the crucial role managers in the Norwegian public sector possess, we wanted to study how these managers perceive and understand innovation. We realized that few scholars and researchers had taken an interest in how managers in public organizations understand and relate to innovation in the public sector, especially within the Norwegian public sector context. The recent literature used the survey approach to the research field. We wanted to investigate the topic through a managerial perspective, and study how these practitioners understood and experienced the complex phenomenon that is innovation. Furthermore, the literature on the field of the Norwegian public sector was close to non-existing.

Based on these insights, we decided early that we wanted to conduct a multiple-case study. We were undecided as to what approach to the topic we wanted, and went back and forth in discussions on whether to conduct a comparison between public-private or public-public organizations. We decided that due to the large differences between the private and public, the results would potentially not yield much contribution to the field. We therefore decided on only public organizations, but were intrigued to investigate similarities and differences within the public organizations, especially between the different levels of government. We decided to focus on the ministerial and agency level, because these are organizations with national, rather than local, interests, and we wanted a top-level managerial perspective in our study.

The previous section has explained our motivation for conducting an empirical study on the topic of public sector innovation. The following section will describe the method used during our literature study, before the method and design for the empirical study will be introduced in section 2.3.

2.2 LITERATURE STUDY

In order to gain an overview of the literature, a simple and broad approach for building the initial base of literature was used. This was performed by searching for relevant articles touching on the subject of innovation in the public sector in databases such as ISI Web of Knowledge, Scopus, as well as complementing with Google Scholar. This search primarily focused on the fields of Innovation, Management, Political Science, and Public Administration. We also thoroughly exhausted the NTNU university libraries at both the Gløshaugen and Dragvoll campuses for books on the subject, and found relevant books within the fields of Political Science, Management, and Organizational Theory.

Searches were also conducted with the terms in Norwegian in order to find relevant literature on the Norwegian public sector. These searches were performed in other databases than Scopus and ISI, and revealed some papers written in Norwegian. We would also like to draw attention to the difference in number of hits when using quotation marks on search terms. E.g. public innovation resulted in 7567 hits, but "public innovation" only resulted in 55 hits.

In addition to articles found through the databases, we also included governmental and EU reports such as the Publin reports funded by the EU, MEPIN (Measuring Public Innovation in Nordic Countries), and the white paper 'Et nyskapende og Bærekraftig Norge' also known as 'Innovasjonsmeldingen' (Meld.St. 7., (2008-2009)).

The topic of public sector innovation in the public sector is covered in multiple research fields, such as:

• Political Science

• Organizational Management and Theory

• Public Management

• Public Administration

• Economics

• Sociology

• Strategic Management

• Innovation

In order to conduct a systematic literature review, we filtered out articles by research areas. This involves limiting and refining the literature to selected areas of research when searching on databases such as ISI Web of Knowledge and Scopus.

The result we got from the databases were further selected based on certain criteria:

Citations: In order for an article to be found relevant, we set a lower bar for citations at 25. If an article did not have sufficient number of citations it was not included. We interpreted citations as an indication for impact of the article and author.

Contemporary literature: With the public sector being subject to change over time due to multiple factors, both domestic (Changing governments, demographic change) and international (Geopolitical, conflicts etc.), we chose to focus on contemporary literature, as this will reflect the most accurate situation and depiction of the challenges and opportunities the public sector is facing. Articles published after 2010 has been included despite few citations. This has been done as these have yet to mature in the research field, and thus evaluating these based on citations is not sufficient.

Snowballing: In order to find literature that was relevant, but did not show up in our literature searches, we reviewed the lists of references in the articles we identified as relevant. This method is called backwards snowballing and allows us to quickly find new and relevant literature on the topic of research used by authors (Jalali and Wohlin, 2012). The literature found through snowballing was found to be credible, as it was already cited by an author we had identified as relevant. Similarly we used the method of forward snowballing to find more modern literature as the method of snowballing only allow us to find existing literature from the time the snowballed article was published.

In order to evaluate which articles were relevant for this master thesis, we read through the abstract of the articles found through the literature search. The articles we found to cover our topic, we read all the way through.

2.2.1 LIMITATIONS TO THE LITERATURE STUDY

Despite our best efforts to conduct a systematic literature review, the method can have some limitations. The following section will discuss the potential limitations our selected research method poses on this master thesis.

2.2.1.1 LOW MATURITY OF THE RESEARCH FIELD

One of the main sources of weakness to our literature search is the relative lack of focus on the field of innovation in the public sector. The research field of public sector innovation has, despite the increase in attention, as Mulgan (2007) argues, yet to produce key texts or concepts that are widely accepted.

The low volume of articles on the subject seems to stem from a lack of maturity within this field of research. This has prompted us to place emphasis on articles with a relatively low number of citations. Furthermore, a

low number of scholars and experts have contributed with several articles that have been found relevant for our research. We can highlight Sandford Borins and his work, as an example of this. This could have lead to us overemphasizing certain elements and contributions in our discussions.

Another consequence of the lack of maturity in the research field is that we have had to sift through large volumes of irrelevant articles to occasionally find relevant literature. Thus, it is difficult to say whether or not the literature review in each appended paper covers a representative sample of the existing, and most important, research.

2.2.1.2 Scope and Focus of the thesis

The literature that makes up the basis for this master thesis, and the appended papers, consists of articles from a broad spectrum of research fields. We have attempted to identify the articles of relevance and interest for the papers' research topics. However, with literature from many fields, it has not been possible to cover every article from each field. Due to our attempt to narrow down through key search words, and criteria for evaluating relevance, it is possible that some contributions from authors are not included.

2.3 Empirical Study

The methodology behind the empirical data for this thesis will be discussed in the following section. The findings and conclusions the papers in this master thesis contributes to the research field, is primarily based on the empirical data collected through interviews with informants in the Norwegian public sector. The methodology and rationale behind the choice of design and analysis will be described and evaluated in this section.

2.3.1 Design

When we started preparations for the empirical study we had already conducted a literature review (described in section 2.2). The case study design allows for an embedded design, with multiple levels of analysis within a single study (Eisenhardt, 1989). This thesis' appended papers study both the public sector as a whole, as well as the different levels separately. The multiple-case design fits well with the intended purpose of our research.

2.3.2 Selection

The public sector in Norway consists of the public administration and public enterprises. The Norwegian public sector is divided into three administrative levels; state administration, county administration and local municipalities (Teigen, 2007). The public sector, and the organizations in it, are heterogeneous (Koch and Hauknes, 2005; Bloch, 2011; Borins 2001, 2002; Lægreid, Roness and Verhoest, 2011). Based on this, it was important for the quality of this study to sample organizations from a variety of areas of the public sector, in order to best be able to evaluate and study patterns and differences in the data. Moreover, with the selection of multiple organizations, the potential conclusions found in the analysis can be considered more powerful, compared to a study with a smaller sample (Yin, 2009). The figure below illustrates the structure of the Norwegian public sector.
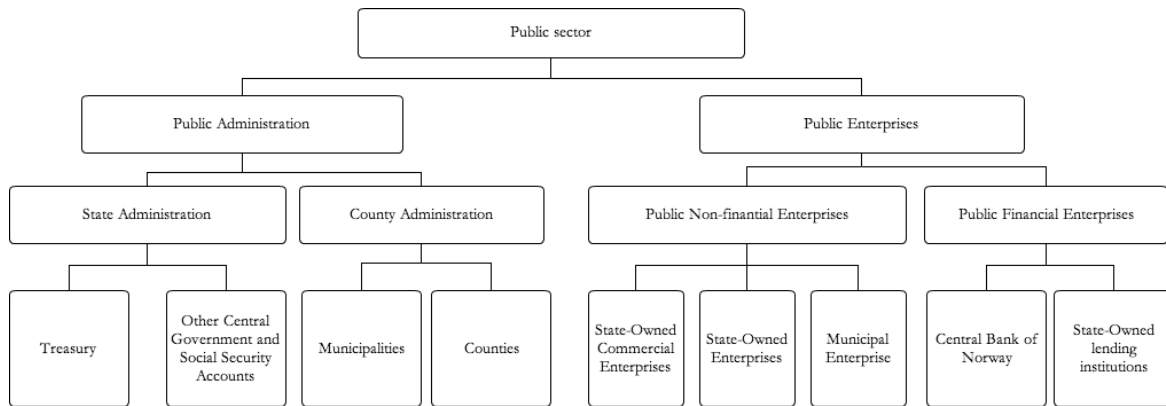
FIGURE 1: THE NORWEGIAN PUBLIC SECTOR (MELD.ST. 7 (2008-2009: 124))

The organizations and informants included in this study were a result of a strategic selection of public organizations. All informants were employed at administrative level rather than political. Some of the organizations were identified as interesting by the researchers prior to establishing contact with the informants in the organization. The selection of case organizations to be included at the agency level was further based on the ownership structure of the Norwegian public sector. The process of selecting at the agency level will receive more attention in the following section.

2.3.2.1 SELECTING AGENCY LEVEL ORGANIZATIONS

The description of agencies has varied in the literature as quangos, non-departmental public bodies and quasi-autonomous public organizations (Lægreid et al., 2011; Talbot, 2004). It is important to remember that with vast differences in models, size, and organizational structures between European country's public sectors, the performance can vary considerably (Maroto and Rubalcaba, 2008).

When selecting organizations to be included at the agency level, we therefore applied certain criteria for the organization, partly based on Pollitt and Talbot (2004) and Lægreid et al., (2011). First, they are formally controlled and owned by central ministries. Second, they are structurally disaggregated from other organizations, or from units within core departments. Third, the organization must have some capacity for autonomous decision making with regards to management or policy. Fourth, they must have some resources of their own, such as personnel and financial. Fifth, the organization must carry out public tasks at a national level.

2.3.2.2 ESTABLISHING CONTACT

When conducting case studies, a central and crucial aspect is to gain access to the informants (Yin, 2009). With the focus of studying the concept of innovation from a managerial perspective, it was vital for the study to gain access to managers in Norwegian public organizations.

The initial contact with the informants was made by e-mail and telephone. The informants' contact information was found by accessing the organizations' web pages. However, for some of the organizations the contact information to the informants were not publicly available online. In those cases we used alternative methods, such as calling the switchboard, searched the web for contact information, or used services such as LinkedIn.

When contact was made with the organizations, and the respective informants, the topic for the study was first presented, before the informants were asked if they believed themselves to be suitable for an interview. If they did not want to participate, a referral to a more suitable manager in the organization was requested. Further contact was conducted through email, and an appointment for the interview was set up. Prior to the interview, the informants were sent an email describing the interview setting and the topics for the meeting in more detail. This allowed the informants to prepare for the interview. However, the actual questions were not revealed during this stage, rather the themes and topics for the interview were disclosed in the information the informants received. The initial email message we sent to the informants can be found in appendix 2.

In order to preserve the link between the ministerial level and the agency level organizations included in this study, the appointments with ministerial level managers were scheduled first, before contact with the agency level managers were initiated. The interviews were approximately scheduled 10 days in advance, due to the expected busy schedules of the managers.

2.3.3 DATA COLLECTION

The data was collected through a total of 15 interviews, with 20 interviewees. The informants represent 15 different Norwegian public organizations. All the 15 interviews were performed during spring of 2014.

The sampling of interviewees can be categorized into two camps of the public sector; group 1 were informants at ministerial level, and group 2 were informants at agency level. Group 1 is shown in table 1, and consisted of 8 interviews, including 11 informants. The second group consisted of 7 interviews, and 9 informants, as shown in table 2. It was important for us to obtain a link between the organizations we interviewed on ministerial level and agency level. As table 2 illustrates, all the public organizations on ministerial and agency level are linked together through area of activity and ownership structure. Despite our best efforts, we were not able to obtain an interview with an agency level organization that was linked to Ministry of Justice and Public Security.

As part of our preparation, we created interview guides in order to ensure sufficient consistency and guidance during, as well as between, the interviews.

We wrote the interview guides, before receiving feedback on the drafts by an academic professional, our supervisor, in addition to experienced practitioners at InFuture AS. The comments and feedback we received were then used to adjust the interview guide. Thus, the interview guides were updated and adjusted several times before it was actually used.

To further prepare for the interviews, we performed test interviews on fellow students. These tests allowed us to evaluate which questions worked, and make adjustments accordingly. Despite these efforts, we saw the need to perform minor adjustments to the interview guide during the data collection phase, as we discovered the need for more focus on certain areas. After the first couple of interviews, we saw indications to interesting

patterns related to the influence from the environment on the managers. We therefore made some adjustments to further investigate this in the remaining interviews. The interview guide can be found in appendix 1.

All informants were promised anonymity and that the data was to be treated with confidentiality, in order to receive honest and genuine answers during the interviews. This therefore requires us to take certain measures when presenting the data in this thesis. In order to fulfill this promise we will not disclose the name or position of individual informants in this thesis. Additionally, certain quotes would compromise the informant's identity, if the organization's name were to be given. Thus, in these cases, the organization's name has been left out.

TABLE 1: OVERVIEW OF ORGANIZATIONS AT MINISTERIAL LEVEL

Name of public organization	Number of informants	Length of interview
Ministry of Labor and Social Affairs	1	42:34
Ministry of Transport and Communications	2	1:04:39
Ministry of Petroleum and Energy	2	1:02:16
Ministry of Trade, Industry and Fisheries	1	52:22
Ministry of Education and Research	1	1:02:04
Ministry of Finance	1	49:03
Ministry of Justice and Public Security	1	1:00:58
Ministry of Local Government and Modernization	2	46:57

All of the interviews in group 1 were conducted in Oslo and were performed in the respective ministries' facilities. All of the informants on ministerial level were administrative staff. 6 held position as Director General, 1 Deputy Director General, 1 Specialist Director, 2 Senior Advisors, and 1 Advisor. In total, the interviews lasted 7 hours and 21 minutes. Each interview lasted on average 55 minutes.

Table 2 illustrates the organizations included at agency level. The overview of agency level organizations further includes a category for the owner of the organization. All the organizations at agency level are formally owned by an organization included at ministerial level.

TABLE 2: OVERVIEW OF ORGANIZATIONS AT AGENCY LEVEL

Name of Public Organization	Type of public organization	Owner	Number of informants	Length of interview
Enova	Public Enterprise	Ministry of Petroleum and Energy	1	31:29
Norwegian Tax Administration	Public Agency	Ministry of Finance	2	1:09:44
Siva – The Industrial Development Corporation of Norway	Public Enterprise	Ministry of Trade, Industry and Fisheries	1	1:25:17
Agency for Public Management and eGovernment	Public Agency	Ministry of Local Government and Modernization	2	51:56
Norwegian State Educational Loan Fund	Public Agency	Ministry of Education and Research	1	56:23
The Norwegian Labor and Welfare Administration	Public Agency	Ministry of Labor and Social Affairs	1	50:04
The Norwegian Public Roads Administration, Directorate of Public Roads	Directorate	Ministry of Transport and Communications	1	41:40

The informants of group 2 represented, to some extent, more diversity in positions compared to group 1. Of the 9 informants were 3 head of the organization (CEO or Managing Director), 1 Deputy Director, 2 Department Directors, 1 Section Manager and 2 Senior Advisors. Similar to the informants in group 1, were all of the informants staff at administrative level, rather than political.

2.3.3.1 DURING THE INTERVIEWS

All interviews, except one, were conducted with both authors present. Having two researchers present in the interview setting permitted us to allocate roles as interviewers, where one acted as lead interviewer and were responsible that the interview included the topics in the interview guide. The other person had the role of follow-up and observe. This was done to ensure that we satisfied our line of inquires, as well as to be able to follow the conversation and obtain further information through asking relevant follow-up questions and noting observations, as suggested by Yin (2009) and Eisenhardt (1989).

Before starting our questions we asked the informants for permission to record the interview. The recording would be treated confidential and used to obtain a more accurate rendition of the interview for further analysis (Yin, 2009). All of our informants agreed to the recording of the interview.

The interviews were semi-structured, where we used the interview guide to ensure that we touched upon the topics of interest for our research, but we allowed for the informants to speak freely, as this could provide insight into general attitudes and strategies for innovation. This type of in-depth interview allowed us as researchers to get both facts and opinions from our informants (Yin, 2009). The interviews were conducted in Norwegian, as it was the native language of all informants and represented a natural setting for the interview.

The interviews started with a section of open-ended questions, where the informants were asked to provide a description or definition of innovation and the innovation process. Following the section focusing on how the informants understood and perceived these central concepts, the definition of innovation used in the MEPIN report was read. This was to ensure that both the informant and us as interviewers had the same definition of innovation for the rest of the interview. This was a measure to reduce the chance of misunderstanding and misinterpretation of the answers provided by the respondents. Additionally, the definition in the MEPIN study has already been used in the large scale MEPIN survey in Nordic public organizations, and thus provides valuable grounds for comparison of the results.

2.3.4 DATA ANALYSIS

When conducting case studies, an important aspect in the preparation is to have a clear strategy for analyzing the data (Yin, 2009). The following section will introduce the strategy and proceedings for the data analysis phase for this master thesis.

After the interviews were conducted, the recordings of the interview were used to transcribe each interview. The recorded interviews lasted in total 13 hours and 47 minutes. The total amount of data after the transcription amounted to 142 pages of single spaced data. The rich data from the interviews were then supplied with other sources of data, such as archival data from the organizations' webpages, reports published, and observations made during the interviews.

One of the advantages of being two researchers was evident during the data analysis phase. As a measure to reduce the risk of misinterpretations, investigator bias, and drawing wrong patterns, a uniform framework for analyzing the data was created, before the researchers analyzed the data individually. The framework was created in Microsoft Excel and included various categories to sort the data and results, as recommended by Yin (2009). The analysis was an iterative process, where we had to go frequently back and forth between the data and analysis. Based on this inductive approach, several themes were identified as interesting, and the result was the creation of the two appended papers, with two different areas of focus within the topic of public sector innovation. The first theme we identified was the variation in the definition of innovation, which can be found in paper one. The second was the influence the managers reported from the environmental context of the organization, which is the topic in paper two. Because we were unable to obtain an interview with an organization owned or controlled by the Ministry of Justice and Social Security, the informant at ministerial level in this organization was excluded from the sample in paper two. The data set for paper two contained 14 organizations and 19 informants. This was important as we recognized the need for a link between the organizations included at both levels of government.

This data analysis method proposes several advantages. First, it allows for individual case analysis. Individual analysis of the cases as stand-alone increased the researchers' familiarity with each case. This process allows researchers to detect unique patterns in each case before pushing for generalization between the cases (Eisenhardt, 1989). The second advantage is, as mentioned, that it allows for comparison and pattern matching between the cases. The matrix for analysis thus made it easier to compare the findings in the individual cases, as the categories were similar for each case for both researchers. This method allows researchers to see patterns, both similarities and deviations, between the data from the cases (Yin, 2009).

The findings each individual researcher made were then compared and discussed between the researchers. It should also be considered a strength that the findings presented in the two appended papers were made by both researchers. Upon comparison of the individual analysis, we evaluated potential findings based on both researchers finding similar patterns in the data. When one researcher claimed to have identified something, but the other researcher did not have similar finding, we went back to the data to examine the foundation for the finding. The basis for the finding was further discussed thoroughly before decided to be included or not.

Following the confirmation of the separate analysis, the proposed empirical findings and patterns from the data was compared to existing literature from the field. Yin (2009) argues that this method strengthens the analysis and findings. We had a robust foundation of knowledge on the field of research when working on this thesis, due to the prior experience and familiarity, which was constructed during the work with the project thesis. We continued this exploration of the literature during the course of the whole research process, in order to assess our findings based on theoretical insights and potential rival explanations proposed by scholars and experts.

After the analysis, all of the informants were given the opportunity to cite-check their quotes. This resulted in changes to several of the quotes to be more 'politically correct'. This reduced the usability of some of the quotes in the papers.

2.4 LIMITATIONS AND EVALUATIONS

The methodology used for this master thesis is not without limitations, and it is important to be aware of these in order to fully assess the quality of the research. The following section will map out and discuss some of the potential limitations this master thesis may represent. Lastly, this section presents some reflections on what we as authors would have done different if we were to embark upon this research process again.

2.4.1 OVERLAP BETWEEN THE PAPERS

As several scholars have argued (see Lægreid et al., 2011; Mulgan and Albury, 2003), innovation in the public sector is a complex phenomenon. We therefore strived towards exploring rival explanations for the findings from the empirical data. The approach of attempting to identify several factors that can contribute to explaining these findings may have resulted in that the papers suffer from some overlap. The figure below illustrates how the papers overlap in some areas;
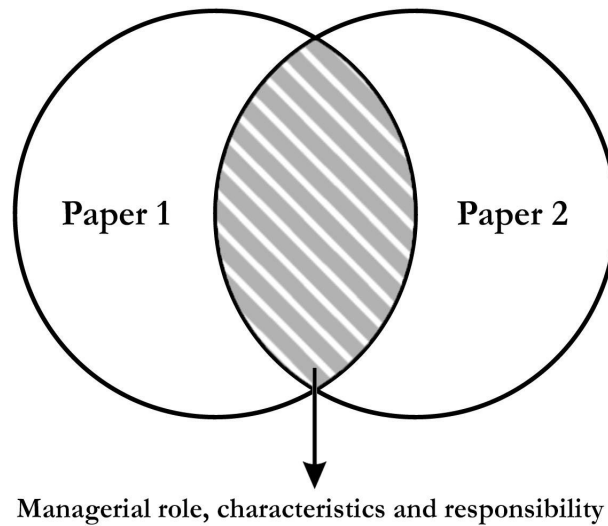
FIGURE 2: OVERLAP BETWEEN PAPERS

When evaluating the two appended papers in this thesis, we realize that there is some spillover and overlap. Despite the two papers' scope being different, the complexity of public innovation led to the introduction of similar alternative explanations to certain aspects. This overlap is primarily on the assessment of the role of managers in the organizations. This master thesis has a managerial perspective to innovation, and this overlap in the papers could therefore be considered as unsurprising. The overlap between the papers is most apparent in explanations related to managerial factors, such as the managerial role, characteristics and responsibility. The last overlap we have identified is regarding the explanations surrounding the role of culture in the organizations, and how this is a managerial responsibility. During the revision of the papers we have attempted to minimize this overlap, but because of the importance of rival explanations in the discussions, we are aware that some overlap remains. The overlap could further be explained by the low maturity of the literature, resulting in the use of central contribution from the field, and thus their arguments, in both of the appended papers.

2.4.2 THEORY AND GENERALIZABILITY

With the concern for the external validity of our study, we have emphasized the review of existing literature and theories on public sector innovation. The issue of external validity has been perceived as a major barrier for case study researchers (Yin, 2009). The case study research design relies on generalization through analytic generalization (Yin, 2009). This means that the generalizations made from our findings are done according to broader theories on public sector innovation. Through building a strong theoretical foundation, the external validity of the study can therefore be considered stronger.

Similarly, we saw that the lack of an organization at agency level owned by Ministry of Justice and Social Security could be problematic for the results. We therefore chose not to include it in paper two, as the paper investigates differences between the levels of government. When evaluating the situation we see that this is unfortunate, and should have pressed even harder to obtain an informant at agency level. However, due to time constraints and limited resources for this study, we were not able to conduct an interview after the main data collection phase.

The chosen method relies heavily on argumentative interpretation from the researchers in order to develop plausible and fair arguments that support the data and findings. There is therefore a possibility that we as researchers have misinterpreted the data or acted biased when analyzing the data, resulting in findings that are asymmetrical and do not match the actual situation. However, as the informants have cite-checked and explained their quotes, and the individual analysis came up with the same findings, this should contribute to reducing this risk.

2.4.3 INFORMATION SENSITIVITY

One of the responsibilities as researchers is to allow others to replicate the study, and find the same results (Yin, 2009). This is problematic for this master thesis, as the collected data is sensitive to the informants, and we have promised confidentiality.

To improve the reliability of this study it would have been preferable to develop a case study database, allowing other researchers to replicate the study. However, because the informants were promised anonymity, and the data to be treated confidential as a measure to gain their trust, and to motivate them to speak freely without constraint, this was not possible for this study.

However, we have extensively described the methodology behind each phase of the study as a measure to strengthen the reliability. We have further included the positions of the informants, along with the organizations included in the sample. Because of the limitations set by the pledge for confidentiality and anonymity to the informants, we could not reveal the specific positions of the informants in each organization. Our experience when contacting these informants, were that they expressed positivity regarding contributing and participating in the study. Therefore, replicating this study should be possible, even with other informants. Additionally, we have enclosed the interview guide used for the interviews, in appendix 1, allowing future researchers to reuse this when checking the reliability of the study. The email used to contact the informants can be found in appendix 2. With this detailed documentation of the process and procedures, the reliability of this study should therefore not be considered as weak as first assumed.

2.4.4 SMALL SAMPLE

The sampling of informants, and choice of public organizations, for this study is small, and does not cover all of the government's sectors and areas of responsibility. The findings and results of this study should therefore not be considered statistically representable. Similarly, despite our best efforts to reach the best match of informants for our study in each organization, there is also the chance that we did not select, or were referred to, the most appropriate person in each organization. Due to time constraints, research focus, and our ability to process data, it would not have been possible to include more organizations into this study, as this could have lead to a more superficial analysis of the data, and thus could have resulted in lower quality

of the research. Furthermore, the informants were provided with information prior to the interviews, and were given information regarding the topics for the interviews. These measures should have reduced this risk, as the informants were aware of the setting for the interviews.

The data collected for the empirical study included only one interview in each organization. The data is therefore limited in evaluating whether the perception expressed by the managers in fact were true or not. There is therefore a limitation in the small sample representing each organization. However, the approach for this study is from a managerial perspective. The insights and information we wanted was the managers' perspective and experiences on the different topics.

2.4.5 ALTERATIONS TO THE INTERVIEW GUIDE

During the proceedings of the interviews we detected some indications to differences and similarities between the different levels and sectors of government, related to influence and attitudes to innovation. Based on these realizations, we therefore decided to investigate this issue further. This involved an alteration to the interview guide, resulting in a stronger emphasis on questions regarding these factors during the later interviews. Despite our best efforts to not ask biased questions regarding these factors, this may have lead to the exclusion of questions that could factor in other aspects. However, when analyzing and discussing the findings we have emphasized rivaling explanations from experts and scholars. Thus, other factors that the informants did not mention are included as part of our discussions.

As previously mentioned, the interview guide was changed during the course of the data collection phase, due to the emergence of interesting patterns in the interviews. The line of questioning was changed after the first three interviews, in order for us to be able to probe deeper into some topics. This may have resulted in less emphasis on the first interviews in the analysis phase. However, because we noticed these patterns in the first interviews, these were still relevant for the analysis.

2.4.6 OUR LIMITATIONS

Lastly, it is necessary to evaluate our own role as researchers. In preparation for the interviews, we trained by conducting pilot interviews on fellow students. However, some of the answers given by informants could have been biased, due to our articulation of the questions. As a result of little experience with interviews, the setting, and ability to articulate relevant, as well as insightful questions, some of the responses during the first interviews have been found to be of less relevance, as we matured as interviewers during the data collection phase. When evaluating the interviews, we saw that our ability to ask more profound, and thorough, lines of questions improved along with the number of interviews conducted. As a result, the information and relevance of the data gathered from the last interviews can be of a higher quality compared to some of the first interviews performed.

The interviews and transcriptions were performed in Norwegian. We later translated the relevant quotes, used in paper one and paper two, to English. There could therefore be a potential limitation in our translation, as some of the quotes can have suffered due to our linguistic skills during this process. To reduce the risk of issues with translations, the positions of the informants have been translated using the official governmental

translations.[1] The informants quoted in this paper were also able to review their quotes prior to inclusion in the papers. This process also included that the informants could edit their quotes, so that the chance of misinterpretation was reduced. Based on the measures taken, it could therefore be argued that this potential limitation is reduced in this master thesis.

2.4.7 THE AUTHORS' REFLECTIONS

Before the appended papers are summarized in the next section, we will offer some reflections on the research process, and discuss what we would have done differently if we were to embark upon this process again.

The topics of the appended papers were specified during the data collection and analysis phase. In hindsight, we could have benefited from an earlier clarification of the research questions and topics. We were clear that we wanted to study innovation from a managerial perspective after working on our project thesis, but it would have made the research process easier if we had clarified the topics at an earlier stage. Furthermore, an earlier specification could have resulted in a more in-depth study of the topics.

Similarly, when evaluating the existing literature on the topics, it is clear that this master thesis is pioneering with the exploration of certain factors, such as the environmental context, and evaluating organizations at different levels of government, not to mention the Norwegian context of this study. Thus, if we had chosen more researched topics for this thesis, we could have found more relevant, as well as supporting or rivaling, literature from other scholars.

If we further evaluate the sample, there are certain aspects we could have handled differently. First, it could have been beneficial to conduct a survey within the organizations, in order to control the statements of the managers with other employees' perceptions of the same topics. Due to the timeframe and resources of this study, we were not able to do this, but if we were to do it again, we would have considered it. This would probably have resulted in a smaller sample of organizations in the study, but it could be interesting to evaluate the validity of the managers' statements against the other employees. Furthermore, this approach would probably have required, and resulted in, a different approach than a managerial perspective.

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[1] These can be found through
http://www.regjeringen.no/nb/dep/ud/dok/veiledninger/2010/stillingsbetegnelser.html?id=629907

3. SUMMARY OF THE PAPERS

3.1 PAPER 1

ON THE DEFINITION OF INNOVATION AND THE ROLE OF MANAGERS IN THE PUBLIC SECTOR

3.1.1 THE PURPOSE OF THE PAPER

The purpose of the paper is to investigate how top-managers in Norwegian public organizations understand and view central concepts of innovation, and their role and responsibilities in the innovation process. This is important because, according to the literature and the Government white paper 'Innovasjonsmeldingen', innovation is a managerial responsibility.

3.1.2 RESEARCH QUESTION:

How does top-managers in the Norwegian public sector understand and describe innovation, and how do they perceive their role and responsibility in the innovation process?

3.1.3 SUMMARY OF THE FINDINGS/CONCLUSIONS

The Norwegian Government white paper *'Innovasjonsmeldingen'* states that creating a culture for innovation in public organizations is a managerial responsibility. In this regard, the authors believe it important to have a good understanding of innovation.

The study finds that top-managers in the public sector organizations included in this study largely understands innovation on a conceptual level. However, there is a lack of a common definition. The Norwegian Government has provided several definitions of innovation meant for the public sector, but has not communicated these definitions adequately. Additionally, the existence of several definitions may only serve to further confuse and dilute the term. Lastly, these definitions lack certain elements the authors believe to be essential parts of the innovation term.

Many agency level managers did not consider incremental innovation as innovation, and instead viewed it as continuous improvement. However, several of the large changes in the public sector that would be considered as radical innovations today, are the results of incremental innovations over long time spans. It is in the retrospective view that these innovations are considered as radical. With this in mind, a more appropriate description of this type of public innovation process could therefore be incremental revolution.

Lastly, the data shows that the 'implementation phase' is underestimated in the public sector. This can have implications, as the implementation is crucial for successful innovation. Managers play a key role in organizations the implementation phase, and the neglect of this phase in public organizations should not go unnoticed.

3.2 PAPER 2

THE ENVIRONMENTAL CONTEXT'S INFLUENCE ON PUBLIC ORGANIZATIONS' INNOVATIVE ABILITIES

3.2.1 THE PURPOSE OF THE PAPER

The aim of the paper is to examine how managers at two levels of government, ministerial and agency level, perceive the environmental context of their organization affecting the organization's innovative abilities.

3.2.2 RESEARCH QUESTION

How does the environmental context in which ministries and agencies operate in influence their innovative abilities, and is there a difference between the two levels of government?

3.2.3 SUMMARY OF THE FINDINGS/CONCLUSIONS

The study finds that the environmental context of the organization strongly influences the organization's innovative abilities and attitudes. The findings suggest that public organizations imitate and adapt to the environmental elements and changes in which they operate. Hence, the organization's ability to innovate is closely connected to the ability to adapt to an altered environment.

Organizations oriented and interacting with industry sectors are found to be more innovative. The evidence suggests that managers at agency level show more permeability to the organizations' environmental context compared to managers at ministerial level. The findings further suggest that the organizations at agency level are more innovative. This could be explained by closer ties and more frequent interaction with users and/or private businesses and organizations. The organizations at agency level tended to have a more market- and user oriented approach to innovation.

An interesting finding was that the perceived beneficiary for engaging in innovative activities differed between the two levels. The ministerial level organizations were more concerned with serving the top authority, politicians, Ministers or Secretary General. Initiative from the top was considered as motivation, while when initiative originated from below it was perceived as potential source for failure. The agency level organizations were more focused on the end-users and societal effects when engaging in innovative activities.

Lastly, the core tasks and objective of the organization strongly influences the manager's innovative perception of the organization. These must be seen closely connected with the degree of interaction and involvement of external actors.

4. IMPLICATIONS AND CONCLUSIONS

This master thesis contains several findings and conclusions that can have implications for both practitioners and researchers. The following section will present some potential implications from this thesis, as well as suggest measures that could be taken to increase the ability to innovate in, and among, public organizations. More detailed suggestions and limitations can be found in the appended papers.

The conclusions from paper one calls for a development and clarification of a definition of innovation designed for public sector managers. We would further suggest that the development of a new definition must include involvement from managers in the public sector. The results of a discussion from an innovation definition will further increase the understanding of the central concepts among the managers. It is important to understand innovation as a complex phenomenon, and discussing the definition can contribute to greater understanding of what innovation constitutes among the managers. This can result in an increase in the knowledge base on innovation among managers in the public sector, thus contributing to enhancing the innovative abilities of the public organizations.

The findings from paper one further suggest that the 'implementation phase' could be underestimated in the public sector. Both practitioners and researchers must address this issue, as implementation is a crucial aspect for successful innovation (Glor, 2001). The public sector should therefore be aware of this 'lost phase', and managers of public organizations must take responsibility for increased focus and participation in the implementation of innovation.

We can further turn the attention to paper two. The paper finds that the environmental contexts of the organizations influence their innovative abilities. For practitioners, this should be acknowledged and understood, as it impacts the organization's innovative orientation. The organization's ability to collaborate and learn from others should therefore be evaluated by the managers. A practical solution to increase the ability to innovate among those organizations not connected to, or operating with, innovative environments, is to establish networks with managers within these environments. This could contribute to input and exchange of ideas and knowledge that could contribute to increasing the innovative abilities of the organizations. Furthermore, with ministerial level managers identified as less innovation oriented, compared to agency level managers, this should suggest ministerial level managers to initiate more contact with agency level managers. This must be seen as a measure to learn and exchange ideas, and not as a measure to increase control. The primary focus of such interaction should therefore be on learning how the innovation process proceeds and occurs.

Lastly, it is necessary to evaluate the problem description for this master thesis. The purpose of this master thesis was to study managers in the public sector and evaluate how they understand, as well as create conditions for innovation in their organizations. The role and responsibility of managers is crucial for the organization's innovative abilities (Damanpour and Schneider, 2006; Storey and Salaman, 2005). Several informants in this thesis identified innovation as a key component for solving the challenges facing the public sector in the future. However, as this thesis has illustrated, innovation is largely understood by managers on a conceptual level, but the role and responsibility of the managers in this process yielded varying responses. The managerial responsibility for innovation, and the creation of conditions fostering innovation, must be acknowledged to a greater extent across the public sector, as the findings indicate variation between the levels of government. Furthermore, the environmental context of the organization, and its influence on the organization's innovative abilities, must receive more attention from both scholars and practitioners. The environment can be an important source for innovation, which the public sector must learn from in order to

successfully develop in accordance with the society. In this process the managerial role must not be underestimated, and the involvement of managers is essential, as they represent a powerful influence on the organizations.

This master thesis should be considered a small step towards a deeper understanding of innovation in the Norwegian public sector, from a managerial perspective. We therefore hope this contribution can spark interest into further studies within the field, and thus increase the knowledge and understanding of this important, yet almost uncharted field of research.

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APPENDICES

APPENDIX 1: THE INTERVIEW GUIDE

Informasjon

Du/dere vil bli gitt anonymitet i denne oppgaven, og vi håper at dette vil føre at til at dere svarer så ærlig som mulig.

For at vi skal kunne være i stand til å prosessere all informasjonen som blir oppgitt i dette intervjuet, vil vi gjerne be om tillatelse til å ta opp intervjuet på båndopptager. Dersom det er ønskelig sender vi gjerne vår transkripsjon av intervjuet for kontroll.

Om intervjuobjektet

Navn

Stilling

Hvor lenge har du vært i denne stillingen og på denne arbeidsplassen?

Akademisk og profesjonell bakgrunn

Har du noe erfaring med innovasjonsarbeid?

Definisjoner

Hvordan vil du forklare ordet/fenomenet 'innovasjon'?

Vi jobber ut i fra den følgende definisjonen av innovasjon i offentlig sektor:

"En innovasjon er implementeringen av en signifikant endring i måten organisasjonen opererer eller i produktene det tilbyr. Innovasjoner omfatter nye eller signifikante endringer i tjenester eller varer, operasjonelle prosesser, organisasjonelle metoder, eller måten organisasjonen kommuniserer med sine brukere.

Innovasjoner må være nye til organisasjon, men de kan være utviklet av andre. De kan enten være resultatet av beslutninger innad i organisasjonen eller som resultat av nye reguleringer eller politiske tiltak."

Har du noen kommentarer eller tanker om denne definisjonen?

Hva mener du utgjør en innovasjonsprosess?

Innovasjonsaktiviteter

Hvilke innovasjonsaktiviteter har dere gjennomført de siste tre årene?

Hva er/var formålet/hensikten?

Var dere først til å introdusere denne?

Hva var avgjørende for at denne innovasjonsaktiviteten ble vellykket?

Har organisasjonen egne innovasjonsmålsetninger eller visjoner?

Hvordan kommuniseres disse nedover i organisasjonen?

Er innovasjon festet til mål eller strategidokumenter internt?

Hvilken betydning har/spiller innovasjon for fremtidige strategier? (Ledelsesnivå- hvor viktig er innovasjon i arbeidet for fremtiden/ tankene for fremtiden)

Var det noen eksterne aktører involvert i prosjektet?

Hvis ja: Hvem?

Hvordan fungerte samarbeidet? fordeling av oppgaver/roller?

Hvis nei: Hvorfor ble det ikke samarbeidet med andre?

Hva er de største drivkreftene for innovasjon på din arbeidsplass?

Hva mener du kan gjøres for å bygge opp under disse drivkreftene?

Hva er de største barrierene/hindringene mot innovasjon på din arbeidsplass?

Hva mener du kan gjøres for å unngå/dempe disse barrierene?

Hvilken rolle tar du som leder i innovasjonsprosessen?

Hvor stor frihet eller autonomitet har dere i deres virksomhet?

Kultur:

Hvordan vil du beskrive innovasjonskulturen på din arbeidsplass?

Hvordan motiveres ansatte for å innovere i organisasjonen?

Har det blitt iverksatt spesifikke tiltak for å fremme innovasjon? (Eksempelvis konkurranser, historier, gjenstander, belønninger?)

Hvilke innovasjonsfremmende tiltak har blitt innført de siste to årene?

Evalueres innovasjonsprosjekter i ettertid?

Hvordan vil du beskrive innovasjonskompetansen på din arbeidsplass?

Ledergruppe, mellomleder, front-line staff?

Gjøres det noen tiltak for å øke denne kompetansen?

Hvordan mener du det optimale insentiv- og belønningssystemet for innovasjon i en offentlig organisasjon vil se ut?

Hvordan er deres holdning til risiko i prosjekter?

Hvordan fordeles ansvaret/risiko i innovasjonsprosjekter?

Eksterne?

Hvordan kommuniseres usikkerhet eller risiko i prosjekter til ansatte?

Hvilke metoder benyttes for å håndtere/administrer risiko og usikkerhet?

Hvordan vil du beskrive holdningene til innovasjonsinitiativ?

Hvordan reagerer du på at en ansatt tar høyere risiko i et prosjekt enn "normalen" (normalen = typisk/gjennomsnittlig/tradisjonelt)?

APPENDIX 2: EMAIL TEMPLATE

Hei [Navn].

Vi er to studenter ved NTNUs Entreprenørskole som skriver masteroppgave om innovasjon i offentlig sektor. Våre forstudier har vist at det offentlige er en viktig aktør i innovasjonsarbeidet og i masteroppgaven vår ser vi nærmere på hvordan ledere i det offentlige forholder seg til innovasjon. I den forbindelse tror vi det ville vært veldig interessant å intervjue noen personer i [organisasjon]

[Spesifikt om organisasjonen]

Er dette noe du kan stille opp på, eller har du forslag til andre i organisasjonen vi heller bør kontakte? Selve intervjuet vil ikke vare lenger enn 45-60 minutter og vi vil gi innsyn i masteroppgaven vår dersom dette er ønskelig.

Mvh

Magne Nielsen og Øystein bakke

PAPER 1

ON THE DEFINITION OF INNOVATION AND THE ROLE OF MANAGERS IN THE PUBLIC SECTOR

Authors:

Øystein Bakke

Magne Klonteig Nielsen

ABSTRACT

The traditional view of the public sector as bureaucratic and non-innovative, have been proven wrong by much of the empirical research from the field, which suggests that the actual situation is to the contrary. However, studies indicate that there lacks a shared understanding of innovation in the public sector. This paper seeks to contribute to the growing body on public sector innovation by studying how managers in public sector organizations understand and view innovation, and their role as managers in the innovation process.

The study is based on an empirical, multiple-case design, including interviews with 20 informants in 15 public organizations. Although this study suggest that the managers understand innovation on a conceptual level, their lack of precision regarding the understanding of innovation call for the establishment of a common definition of the concept for the public sector. It was evident that managers struggled with issues such as; novelty, degree of change necessary, and the implementation phase, when discussing what constitutes innovation. Additionally, the empirical data from this study shows that the understanding of the managerial role, and responsibilities regarding innovation, differs between public sector organizations. Lastly, this study calls for further research, as the research field of public sector innovation is an understudied field, despite its importance for the society.

1. INTRODUCTION

The role of, and the need for innovation for economic competitiveness and development has long been recognized by governments and policy makers, as innovation is presented as a critical element for economic performance (Storey and Salaman, 2005). Innovation in the public sector is crucial in order to maintain the high levels of welfare services the public sector provides, and for the public sector to be able to address both the economical and societal challenges it faces (Bloch & Bugge, 2013). The public sector needs to innovate in order to renew and work smarter, in contrast to spending more resources and labor as a solution to the major challenges (Meld.St. 7., (2008-2009)). The ability of a government to create value from public resources is essential to efficient and effective government (Klein, Mahoney, McGahan, and Pitelis, 2013).

This paper focuses on the perspective of top-managers in public organizations. Top-managers are important, as innovations must obtain support in the organization to be successful (Mulgan, 2007). Furthermore, innovation is a complex phenomenon, and successful innovation requires managerial skills and talents to transform ideas into reality (Bland, Bruk, Kim, and Lee, 2010). Managers of public organizations are also responsible for establishing a culture within the organization that supports innovation (Mulgan, 2007; Bland et. al., 2010). Bloch (2011) further argues that managers in public organizations should be viewed as a potential key driver for innovation.

With the recently increased focus on public sector innovation, academic researchers, governmental ministers and other experts have been eager to provide descriptions of public sector organizations and public managers (Llewellyn, Lewis and Woods, 2007). The different research fields have tended to emphasize and take different positions in their explanations of public sector innovation, from the macro perspective on the structured-based view of political scientists to personal characteristics of managers by the organizational and management literature (Bloch, 2011; Klein et al., 2013). Despite the increased focus on innovation during the last four decades, scholars have yet to reach a consensus in terms of a common definition of innovation (Damanpour, 1996; Bland et al., 2010; Arundel and Huber, 2013). However, the perspective of how public managers themselves view and relate to central concepts of innovation has yet to receive much attention. It is this gap in the research field this paper will address.

How managers understand innovation is important for several reasons; first, without a clear definition or understanding of the core terminology, the term innovation can easily be drained of any real meaning (Storey and Salaman, 2005). With managers playing a key role as decision makers, their perception of the term is crucial in legitimizing the activities (Storey and Salaman, 2005). Second, a clear definition and understanding of innovation among managers is needed in order to measure innovation in the public sector (Arundel and Huber, 2013). Finally, as the PUBLIN report on public innovation from 2006 highlighted, there is an issue relating to lack of communication and learning, both internally and between agencies in the public sector, which acts as a barrier for innovation (Koch, Cunningham, Schwabsky, and Hauknes, 2006). How are top-managers in the public sector supposed to properly communicate when they are given highly differing definitions of innovation? The central research question we will address in this paper is as follows:

RQ: How do top-managers in the Norwegian public sector understand and describe innovation, and how do they perceive their role and responsibility in the innovation process?

This paper seeks to contribute to the now growing body of literature on public sector innovation, with a managerial perspective on innovation. More specifically, this paper aims to contribute to the fields of innovation management and public administration. This paper uses the definition of innovation from the MEPIN study, a large-scale study on innovation in public organizations in the Nordic countries. This is due to two reasons; first, the definition was used to establish a common understanding with the informants, in order to conduct informative interviews. Second, the MEPIN definition was used in order to collect data comparable to the results from the MEPIN study. This definition will be given, and subsequently discussed, in section 2.1.

The next section of this paper will review the existing literature on public sector innovation. Following the literature review, the multiple-case study research design and the qualitative, semi-structured interview format for the data collection used for this paper will be discussed. The findings will be presented in section 4. In section 5 the findings are discussed in light of existing theory and contributions from scholars, before some suggestions for further research will be introduced in section 6. Lastly, the conclusions from this paper will be drawn, in section 7.

2. LITERATURE REVIEW

The traditional view of public sector innovation has tended to be that innovation in the public sector is an oxymoron (Arundel and Huber, 2013; Bommert, 2010). However, a recent large-scale survey reported that more than 80 percent of Norwegian public organizations had introduced some form of innovation in the last two years (SSB, 2011). Perhaps more surprisingly, when compared to private sector the results show that the public sector reports to innovate to a greater extent than their private sector counterparts. In the 2010 Innobarometer, surveying 3699 European public sector organizations, 91.5 % of the respondents stated an innovation had been introduced over the last two years. When compared to private sector businesses reported in the 2010 European Community Innovation Survey, where 52.8% reported to have introduced an innovation over the last three years, the public sector seems much more innovative than the private sector (Arundel and Hollanders, 2011).

The public sector has several characteristics that are viewed as barriers to innovation, such as; lack of a market structure, culture of risk aversion, bureaucracy and red tape, and lack of incentives (Borins, 2001, 2002; Mulgan and Albury, 2003; Koch and Hauknes, 2005; Bloch, 2011; Windrum and Koch 2008; Meld.St. 7., (2008-2009)). How can it be that such a high percentage of public sector organizations report innovation activities despite these assumed challenging conditions in the public sector? An explanation to this could be that innovations reported by public sector organizations cannot be compared to those reported in the private sector. This could be due to innovations being easier to develop and implement or only have minor effects (Arundel and Huber, 2013). However, Eggers and Singh (2009) argues that innovation in the public sector is driven by accidental events, and that public organizations do not have a lasting capacity to innovate. Similarly, it can be possible to explain the high innovation rates based on the suggestion that the public sector is constantly changing and adjusting to the surrounding environment, and these adjustments are interpreted as innovations (Bloch & Bugge, 2013).

Some scholars have argued that there is a lack of understanding of the term innovation and the innovation process, resulting in over-reporting of innovation in the public sector (Arundel and Huber 2013; SSB, 2011). Thus, the misconception and understanding of innovation leads to reporting of activities that do not actually

classify as innovations. With the increased attention and focus, it is important to strive towards a common understanding and definition of innovation. This can contribute to avoiding that innovation becomes an empty trend word used by public servants and public organizations in order to be perceived as modern and dynamic, or as a means to seek legitimacy (Olsen, 2004; Boyne, Gould-Williams, Law, Walker, 2005). On the other hand, the private sector counterparts could be under-reporting activities that should be characterized as innovation (Arundel and Huber, 2013). Thus, the threshold for reporting innovations may be higher in the private sector compared to the public sector.

2.1 DEFINITION OF PUBLIC SECTOR INNOVATION

The term innovation has been defined in numerous ways, and its scope and meaning differs between literature regarding the private and the public sector. Despite the increased focus on innovation during the last four decades, scholars have yet to reach a consensus in terms of a common definition of innovation (Damanpour, 1996; Bland et al., 2010; Arundel and Huber, 2013). The following section will review some existing definitions of the concept 'innovation' used for research and reports on the public sector, and issues related to these definitions.

If we are to define innovation, we should first look at the origins of the word itself. The word is from the Latin word *innovare*, and means to make something new (Storey and Salaman, 2005). The literature on innovation has been primarily focused on innovation in the private sector with an emphasis on product innovation (Cunningham and Karakasidou, 2009; Hartley, 2005). Innovation in the public sector can, however, be more difficult to define, as it does not necessarily result in a new public service or offering. Rather, innovation in the public sector can be linked to institutional renewal, process innovation, digitalization, or organizational improvements (Cunningham and Karakasidou, 2009). These improvements in the public sector might not be labeled 'innovations' in the same manner as in the private sector. It is therefore important to be cautious when comparing literature on private sector to public sector innovation, as there are limitations to applying concepts from product innovation to service and organizational innovation (Hartley, 2005).

Moore and Hartley (2008) argue that innovations are more than mere ideas, and that innovations are new ideas and practices brought into implementation. This is in accordance with the definition used for the MEPIN study as presented by Bloch (2011: 14):

"An innovation is the implementation of a significant change in the way your organization operates or in the products it provides. Innovations comprise new or significant changes to services and goods, operational processes, organizational methods, or the way your organization communicates with users.

Innovations must be new to your organization, although they can have been developed by others. They can either be the result of decisions within [the] organization or in response to new regulations or policy measures."

The MEPIN definition is recognized among several scholars (see for example Bloch and Bugge, 2013 and Arundel and Huber, 2011). In addition, the MEPIN study consisted of a survey and interviews with Nordic public organizations, which means the study provides grounds for comparison of the data from this study.

However, a weakness with this definition may be the question as to when a change is significant. This is open to interpretation and could possibly lead to an ambiguous understanding of when a change constitutes an innovation or not.

When further exploring the controversy regarding defining innovation, an interesting aspect is considering the degree of 'novelty' of the innovation. Does the innovation have to be new to the world, or for whom does it have to be new in order to be regarded as an innovation? Storey and Salaman (2005) argue that most ideas and inventions are based on some previous element. Therefore, innovations are often new adaptations or new combinations of existing ideas or methods. There are some steps that can be taken in order to further clarify the degree of novelty and somewhat reduce the chance of misinterpretation and confusion. Two of the criteria for an adequate degree of novelty may be as in Bloch (2011):

- First to develop and introduce the innovation
- The innovation already introduced by others, but new for the organization

The MEPIN study goes on to establish a typology of innovations; product innovation, process innovation, organizational innovation, and communication innovation (Bloch, 2011).

With the white paper 'Et nyskapende og bærekraftig Norge[1]' also known as 'Innovasjonsmeldingen' the Norwegian Government signaled that innovation would be a priority for the future, also for the public sector (Meld.St. 7., (2008-2009)). The white paper used the following definition for innovation (Meld.St. 7., (2008-2009: 13)):

"A new product, a new service, a new production process, application or organizational structure which is introduced to a market or used in production to create economic value"

When compared to the MEPIN definition, it is evident that the definition in the white paper avoids the ambiguity associated with the interpretation of degree of change necessary. Furthermore, the aspect of creation of value is included. Additionally, the definition is formulated to fit both private and public sector innovation policy. This would allow for comparison between the sectors and permit the use of one single definition for both private and public sector managers. It could be a problem for public sector managers to evaluate the economic aspect of the definition, as public organizations produce public outputs that are, contrary to private sector organizations, not sold in a market. Hence, there are no market prices after which these services or products can be evaluated (Klein et al., 2013; Delfgaauw and Dur, 2008).

Furthermore, as a measure to increase the local municipalities in Norway's innovative abilities, the Ministry of Local Government and Modernization published a strategy for innovation in local government in 2013. The strategy used the previously mentioned white paper definition, but simplified it further in order to make it fit better to the public sector:

"Innovation is the process of developing new ideas and realizing them so they can give added value for the society"

In an attempt to further simplify the term, the Ministry of Local Government and Modernization (2013: 10-11) coined the short version *'new and utilized'*.

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[1] Our translation: *"A sustainable and innovative Norway"*

This definition signals the importance of the implementation aspect of innovation and the innovation process. Thus, the strategy explicitly states that in order to be recognized as an innovation it must be implemented and/or used. This definition is simplified and specialized to fit the public sector. The issue with the new governmental definition of innovation is threefold. First, with a simplified definition the scope is broad and encompassing. Second, the definition does not address the issues related to the MEPIN report; the degree of change necessary for innovations. Third, with several definitions of innovation issued by the Norwegian government there is a potential for confusion among both practitioners and academics. This could further result in misinterpretations, imprecision, and misleading communication within and between public organizations.

Halvorsen, Hauknes, Miles, and Røste (2005: 5-6) further presents three labels for innovation in the public sector, which were also used in the PUBLIN project; (1) Incremental and radical innovations, (2) top-down and bottom-up innovations, (3) Needs-led and efficiency-led innovations.

These insights on defining innovation are interesting when concerned with change and reforms in the public sector. Reforms of the public sector are active and deliberate attempts from political or administrative actors to modify structural or cultural features in an organization (Christensen, Egeberg, Larsen, Lægreid, and Roness, 2010). Not all reforms lead to change, and at the same time it should be stressed that not all change in public organizations are results of, or initiated by, reforms. Reforms can be examples of top-down initiatives, while incremental innovations can be initiated from the bottom-up (Christensen et al., 2010). Windrum (2008) suggests that top-down innovations tend to aim at increased efficiency in existing services through changes in governance frameworks and regulations. On the other side, bottom-up innovations are often more focused on developing new services or expanding the quality of supplied services (Windrum, 2008). The media has tended to report on top-down initiated innovations, where politicians are normally the champions advocating the innovation (Windrum, 2008). Another interesting point is when innovating through top-down initiatives the customers are the higher political actors, and not the citizens these orders serve (Pott and Kastelle, 2010).

2.2 INNOVATION IS A MANAGERIAL RESPONSIBILITY

This paper will focus on top-managers, thus it is important to evaluate their role and responsibility related to innovation. Damanpour and Schneider (2006) emphasize the influence of top managers, and claim they affect innovation adoption because they control the resources and influence the major decisions. Furthermore, top-management establishes the norms they see fit for providing the organization's direction, and are thus associated with symbolic functions (Jacobsen and Thorsvik, 2007).

Prior to the revival of public sector innovation as a research field the last 15 years, the conventional wisdom was that innovation was driven exclusively from the top (Borins, 2002; Arundel and Huber, 2013). However, this notion has received critique as the research on the field has progressed. Borins' (2001b, 2002) empirical results show that mid-level management and front-line staff initiated the majority of the innovations that were in the semi-finals in an innovation award in the US. The National Audit Office (2006) study on 125 innovations reported by senior management in 85 governmental departments and agencies in the UK, found that senior management or middle management was cited as the primary source for the innovation in 48 % of the 216 citations. In his more recent article, Borins (2010) updated his research and found that the role of middle management and front-line staff has declined with the years. While middle managers had initiated 43

% of the semi-finalist innovations between 1995 and 1998, the number decreased to 32 % between 2008 and 2009. The largest change was found in front-line staff initiated innovations, which dropped from 27 % to 3 % between 1995-1998 and 2008-2009 respectively. Borins (2010) provides one possible explanation to this by proposing that the standard for the innovation award semi-finalists has increased over time, as the simpler and easier innovations have been implemented. This can reduce the presence of middle managers and front-line staff among the semi-finalists if these groups have tended to initiate and develop more incremental innovations, or those that can be categorized as less novel than those initiated and developed by senior management (Borins, 2010).

While managers are recognized as important sources of innovations, they have another equally, if not more, important role. As the Norwegian Government white paper 'Innovasjonsmeldingen' stated; *"It is a managerial responsibility to create a culture for innovation in the public sector"* (Meld.St. 7., (2008-2009)). It is further expected that managers of public organizations demonstrate willingness to change and to introduce new solutions to the organizations (Meld.St. 7., (2008-2009)). The generation of new ideas and innovation requires a culture that promotes creativity and diversity (Albury, 2005). Managers are leaders of the organizations and employees, thus they can influence the organization's climate for innovation (Damanpour and Schneider, 2009; Bland et al., 2010). This involves motivating and enabling lower level managers and employees, and creating a culture that supports and rewards innovation and change (Damanpour and Schneider, 2006; Storey and Salaman, 2005).

When considering this, how top managers understand and view innovation is therefore important, as it can affect the organization's perception of the central concepts regarding innovation. Top managers exercise a powerful influence in enabling prioritizing and initiating innovation. Top managers are thus enabled, and similarly constrained, by their thinking (Storey and Salaman, 2005).

Borins (2001a) argues that public agencies can be characterized as bureaucratic, and dominated by individual professions where jobs are narrowly defined. This contributes to limiting creativity and hence the degree of innovativeness and innovative culture within the organization. A critical part of the managerial role is to create a culture and environment that motivates and encourages innovation (Damanpour & Schneider, 2009). Along similar lines, Glor (2001) argues that organizational culture can affect and help define management, and vice versa. Management and culture can therefore not be separated. When put into a Norwegian public sector context, Olsen (2004) argues that the high level of wealth in the Norwegian public sector can act as a barrier to innovation, as it blurs out the necessary understanding of the need for innovation and change in the organizations.

3. METHODOLOGY

The research design for this paper has been a multiple-case, inductive study involving 15 interviews with a total of 20 informants on managerial level in Norwegian public sector organizations. One interview was performed at each public organization; 8 at ministerial level and 7 at governmental agency level.

The case study research method has several advantages as it focuses on understanding the dynamics present within a single setting (Eisenhardt, 1989). The case study method is also well suited to our research field as there is little existing literature on the Norwegian public sector and innovation. Considering these factors, the case research method can be a fruitful method to provide insights and knowledge on a phenomenon that

there currently is little knowledge about (Eisenhardt, 1989). As the field of innovation in the public sector and managers, and especially in a Norwegian context, is a relatively new research field, the case study research design is well suited for our research purposes.

The following sections will include a description of the procedures for this study. First the sampling and data sources for this study will be introduced, before the data analysis method will be presented. Lastly, some potential limitation to the methodology for this study will be described. The findings from the empirical data will be outlined in section 4.

3.1 SELECTION

The sampling of organizations can be divided into two groups, depending on the level of government. The first group is the ministerial level, illustrated in table 1. The second group consists of the organizations at agency level, illustrated in table 2.

The organizations in this study were selected strategically. Based on interest and a desire to obtain data from a variety of areas in the public sector, the organizations were selected based on perceived interest for this study. This strategic selection was most evident for the organizations at ministerial level as certain criteria was set for selecting organizations at agency level, in accordance to Talbot (2004) and Lægreid et al.'s (2011) classifications: 1) They are formally controlled and owned by ministers and departments. 2) They are structurally disaggregated from other organizations or from units within core departments. 3) The organization must have some capacity for autonomous decision-making with regards to management or policy. 4) They must have some resources of their own, such as personnel and financial. 5) The organization must carry out public tasks at a national level.

3.2 DATA COLLECTION

In order to establish contact with the organizations, e-mails and phone calls were made to potential informants. For some of the informants the contact information was not accessible through the organization's web pages, we conducted searches on Google or LinkedIn. Those who were contacted, but did not want to participate, were asked to forward the information to a more suitable candidate within the organization.

We wrote the interview guides, before receiving feedback on the drafts by an academic professional, our supervisor, in addition to experienced practitioners at InFuture AS. The comments and feedback we received were then used to adjust the interview guide. Thus, the interview guides were updated and adjusted several times before it was actually used. To prepare for the interviews, we performed test interviews on fellow students. These tests allowed us to evaluate which questions worked, and make adjustments accordingly.

13 of the interviews were conducted within a 3-week span during the month of March 2014, with the last two interviews conducted in April. The interviews were conducted at the offices or facilities of the organization, face-to-face with the informants. This was important to ensure that the data was collected at the case's natural setting, and it created the opportunity for observations, as suggested by Yin (2009). The interviews were conducted in Norwegian, and the quotes are translated to English by the authors.

The interviews followed a semi-structured format to allow informants to shed light on unprepared topics and to allow the freedom of investigating especially interesting emerging topics. The interviews were divided into sections covering several themes related to innovation in the public sector. The first section was designed with open-ended questions where the respondent was asked to explain how he or she would define or describe key concepts of innovation. This section was designed to gain insight into how managers view and understand innovation. The section was concluded with a formalization of the innovation concept as the MEPIN definition was presented to the informants. This was done to ensure that the two parties in the interview, the informant(s) and interviewers had the same interpretation of the key concepts for the rest of the session. The other sections were more specific on different themes related to innovation in the public sector, such as the managerial role, conditions for innovation, and perceived barriers to innovation. During the interviews the definition of innovation used in the MEPIN reports were used as a basis after the interviewees had given their response and opinion on how they define or describe innovation and the innovation process. It is also worth noting here that the MEPIN definition was chosen specifically because it provides grounds for comparison of the results from this study.

As a measure to gain as much information as possible, and to motivate our informants to be honest and not hold back on information they were promised anonymity and the data to be treated confidentially, as suggested by Yin (2009). The tables below show the different public organizations that were included. Because all informants were promised anonymity, the identity or position of individual informants at the different organizations cannot be disclosed in this paper.

8 organizations were included at ministerial level. All of the 11 informants were administrative staff; 6 held positions as Director General, 1 Deputy Director General, 1 Specialist Director, 2 Senior Advisors, and 1 Advisor. This is illustrated in table 1.

TABLE 1: OVERVIEW OF ORGANIZATIONS AT MINISTERIAL LEVEL

Name of public organization	Number of informants	Length of interview
Ministry of Labor and Social Affairs	1	42:34
Ministry of Transport and Communications	2	1:04:39
Ministry of Petroleum and Energy	2	1:02:16
Ministry of Trade, Industry and Fisheries	1	52:22
Ministry of Education and Research	1	1:02:04
Ministry of Finance	1	49:03
Ministry of Justice and Public Security	1	1:00:58
Ministry of Local Government and Modernization	2	46:57

On the agency level, 7 organizations were included, with a total of 9 informants. Similarly to those at ministerial level, all were administrative staff rather than political; 3 were head of the organization (CEO or Managing Director), 1 Deputy Director, 2 Department Directors, 1 Section Manager, and 2 Senior Advisors.

The following table shows the organizations included at agency level. The table illustrates the ownership structure, as well as type of organization, the different cases represent. The number of informants in each organization, as well as length of the interview, is also included.

TABLE 2: OVERVIEW OF ORGANIZATIONS AT AGENCY LEVEL

Name of Public Organization	Type of public organization	Owner	Number of informants	Length of interview
Enova	Public Enterprise	Ministry of Petroleum and Energy	1	31:29
Norwegian Tax Administration	Public Agency	Ministry of Finance	2	1:09:44
Siva – The Industrial Development Corporation of Norway	Public Enterprise	Ministry of Trade, Industry and Fisheries	1	1:25:17
Agency for Public Management and eGovernment	Public Agency	Ministry of Local Government and Modernization	2	51:56
Norwegian State Educational Loan Fund	Public Agency	Ministry of Education and Research	1	56:23
The Norwegian Labor and Welfare Administration	Public Agency	Ministry of Labor and Social Affairs	1	50:04
The Norwegian Public Roads Administration, Directorate of Public Roads	Directorate	Ministry of Transport and Communications	1	41:40

Even though interviewees and organizations were not selected at random, every effort was made to interview managers in organizations that represent a variety of sectors, size, responsibility and function. The public organizations on lower bureaucratic level, the agency level, are all owned by one of the organizations on Ministerial level, as illustrated in table 2.

3.3 DATA SOURCES

The primary sources of data for this study have been the interviews conducted with managers of organizations in the Norwegian public sector. In addition to the interviews, other sources of data have been used, such as archival data from newspapers, the organization's websites and relevant publications from the organizations, in addition to observations from the interviews.

The length of the interviews varied from 31 minutes to 1 hour and 25 minutes. On average the interview duration was 55 minutes. In total, the interviews lasted 13 hours and 47 minutes. The length or difference in length between the interviews did not result in great variance in the quality of the data collected. During the shortest interview the informant was guided to keep on the topics of the interview guide to a greater extent than during the longest interview. The limited time that was given for the shortest interview did, however, not affect the quality of the interview in our opinion. The topics were discussed in a similar fashion as with the informants with longer interviews, but with fewer digressions.

All of the interviews were recorded after permission from the informants. The recordings of the interviews were later transcribed. The amount of transcribed interview data totaled 142 pages of single-spaced writing. The interviews were conducted in Norwegian, and the quotes are translated to English by the authors.

3.4 DATA ANALYSIS

Before starting the analysis, a uniform matrix framework was created with categories to sort the data and results, as suggested by Yin (2009). The matrix framework was created so that each case was analyzed individually, as a stand-alone case. Furthermore, the matrix for analysis also made it easier to compare findings in the individual cases, as the categories were similar for each case. This method allows researchers to see patterns, both similarities and deviations, between the data from the cases (Yin, 2009). By using this method for analyzing the data it was possible to confirm or dismiss findings and patterns detected in the data, as it allows for conclusion to be drawn on a cross-case basis (Yin, 2009).

After the individual data analysis phase, significant time was set aside to discuss and compare the different findings and results between the researchers. Individual analysis of the cases as stand-alone increased the researchers' familiarity with each case. This process allows researchers to detect unique patterns in each case before pushing for generalization between the cases (Eisenhardt, 1989).

After the analysis, the informants were contacted to review their quotes and the interpretations made of their statements. This was done to reduce the chance of misinterpretations from the data, and to ensure that the informants' opinions were correctly communicated.

3.5 LIMITATIONS

One implication that can limit our findings and conclusions is that many public organizations are large and complex. The sampling of informants and choice of public organizations for this study is small and does not cover all of the government's sectors and areas of responsibility. The findings and results of this study should therefore not be considered statistically representable. Similarly, despite our best efforts to reach the best suited of informants for our study in each organization, there is also the chance that we did not select, or

were referred to, the most appropriate person. Due to time constraints, research focus, and our ability to process data, it would not have been possible to include more organizations into this study, as this could have led to a more superficial analysis of the data, and thus could have resulted in lower quality of the research.

Furthermore, due to the small sample, the informants could have difficulty answering on behalf of the entire organization. However, the primary focus for this paper has been to investigate how top-managers in public organizations view and perceive different concepts related to innovation. During the sampling phase, the initial contact stated that if the informant did not feel that he or she was the suitable subject for interview, then it would be preferred if the information was passed on to a more suitable informant. Thus, those informants that did agree to the interview perceived themselves, at least to some extent, to be suited as representatives for the organization. Furthermore, as the interviews uncovered, all the informants possessed knowledge and information on innovation sufficient enough to conduct an interview on the topic for an average of 55 minutes.

Some of the answers given by informants could have been biased due to the articulation of the questions. As a result of little experience with interviews, the setting, and ability to articulate relevant as well as insightful questions, some of the responses during the first interviews have been found to be of less relevance as we matured as interviewers during the data collection phase. When evaluating the interviews we saw that our ability to ask more profound and thorough lines of questions improved along with the number of interviews conducted. As a result, the information and relevance of the data gathered from the last interviews can be of a higher quality compared to some of the first interviews that were performed.

Furthermore, in order to reduce the risk of subjective interpretation of innovation, causing information asymmetries during the interviews, the informants were read the MEPIN definition after they had described their own understanding of the innovation term.

The chosen method relies heavily on argumentative interpretation from the researchers in order to develop plausible and fair arguments that support the data and findings. There is therefore a possibility that we as researchers have misinterpreted the data or acted biased when analyzing the data, resulting in findings that are asymmetrical and do not match the actual situation. However, as the informants have cite-checked and explained their quotes, and the individual analysis came up with the same findings, this should contribute to reducing this risk.

4. FINDINGS

The following section will present the findings from the study. Innovation was, with few exceptions, characterized as important for the organization and an important source for solving the challenges of the future.

However, the data indicates that there are several distinctions to how the informants understand innovation. These findings will be described in the first part of this section, before the perception of the managerial role will be presented.

4.1 Defining innovation

The data collection and analysis uncovered that all informants showed an overall good understanding of innovation on a conceptual level. However, the analysis uncovered that there is a clear lack of precision in the informants' description of innovation. Yet, the general theme was that all informants demonstrated some familiarity with the term, and all managers were fully able to participate in the conversation on the topic of innovation.

When the informants were asked how they would describe or define the term 'innovation', none of the informants gave exactly the same description. The answers varied greatly, from simple descriptions to more advanced and complex definitions. Many of the informants had to spend some time to elaborate their understanding, and many used words such as 'creativity', 'change', 'modernization', and 'renewal'. The following example illustrates the simpler definitions of the term;

"[...] Like using technology in a completely different way to get products to cover existing needs in another way"

-Informant at The Norwegian Public Roads Administration

Or even simpler definitions, such as the one illustrated below.

"To create something new"

-Informant at Ministry of Labor and Social Affairs

On the other side of the spectrum were those informants with more advanced descriptions, including several dimensional characteristics, such as degree of novelty, whether it has been implemented or not, and improvement. One example of such an answer is the following;

"I think it is a new solution, or a different way to do something, something that either may lead to better quality, lower costs, higher goal achievement, so I think about innovation in a broad approach. It is not like you only invent a new gadget and call it innovation; it has to be taken in use"

-Informant at the Ministry of Education and Research

The above quotes clearly illustrates that there is no common understanding of innovation among the public sector managers in our sample. Furthermore, it also illustrates the complexity of the term, as several of the informants had to elaborate and explain their view, and in some cases even use examples.

Only three informants actually expressed knowledge about the definitions provided by either the government white paper 'Innovasjonsmeldingen' or the Ministry of Local Government and Modernization's definition. Perhaps unsurprisingly, all of the informants who used these definitions worked closely with innovation policy at ministerial level of the government. This demonstrates that the Government has not succeeded in fully diffusing their definitions of public sector innovation.

Only one of the informants at ministerial level made any mention of the dimension of significance (or degree) of change, and only two informants at agency level explicitly included this dimension. The ministerial level informant expressed confusion regarding what the difference is between an innovation process and regular work. One of the informants at the agency level expressed significance by stating that the change had to *"carry with it some degree of lasting change"*.

The confusion regarding significance was part of a broader theme among the informants' thoughts regarding innovation. Nearly all informants stated that innovation was an unclear term and difficult to grasp. The following quote expresses the duality of the innovation term, which seems to cause confusion among many of the informants;

"[...] Innovation is often a large word; it is almost supposed to be a paradigm shift. That's not how I think about it, I think it's also about many small changes, but it has to carry with it some degree of lasting change."

-Informant at the Norwegian State Educational Loan Fund

Another trend that suggests a lack of precision in understanding innovation was that few informants provided their definition of innovation with sub-categories and typologies. The informant who cited the definition from 'Innovasjonsmeldingen' was one of the few to talk about types of innovation, but was surprisingly negative to the separation of different typologies, and gave the following explanation as to why;

"[...] we have been concerned with having <u>one</u> definition because one should be able to decide if something is an innovation or not"

-Informant at the Ministry of Trade, Industry and Fisheries

4.2 REACTIONS TO THE MEPIN DEFINITION

After the informants had provided their description or definition of innovation, the definition used in the MEPIN study of innovation in the public sector was subsequently read to them. The informants were then asked if they had any comments or reactions to this definition. The common response was that they found the definition recognizable. While the definition was recognizable, it still revoked some follow-up comments, which tended to revolve around two factors of the definition. The first was that the width of the definition was surprising to several of the informants, as it includes and categorizes many different forms of activities as innovation.

The second reaction to the definition was the wording used in the definition regarding 'significant change'. The issue of significance and what constitutes sufficient change to classify as innovation, rather than normal organizational development, can be summarized in the following quotes:

"[...] What we're struggling with here is to figure out when continuous improvement ends and when innovation starts. [...] I think that as long as we are working on process improving measures, then it is not innovation. I, at least, think that if you want to achieve innovation, it has to be something more to kick-start it, than an organization which constantly offers improvement."

-Informant at The Norwegian Public Roads Administration

An informant at the ministerial level expressed a similar reaction, as the following quote illustrates:

"What is an innovation process, and what is regular work? Where is the line between regular work, where people are a little proactive and do things slightly better, and innovation"?

-Informant at Ministry of Justice and Public Security

One informant reacted to the lack of the added value dimension, and several informants claimed that the definition was very broad and encompassing. It was expressed by an informant that the width of the

definition has the advantage of a holistic perspective, but lacks focus. This focus was explained to be important to that informant in the following matter;

"[...] It is our experience that some of these things require a specialization, and persistence over a long time period, in some narrow tracks, in order to get the breakthrough on the innovation"

-Informant at the Norwegian Tax Administration

The same informant claimed that the MEPIN definition would have a rather interesting consequence; that according to the definition, the Norwegian public sector would look very innovative. This observation is interesting, because several of the informants, the majority of which at the ministerial level, reacted to the MEPIN definition by claiming that it fits well with their daily routines;

"There you see that my perception of innovation is pretty simplified compared to that definition. That one is [MEPIN definition] about new ways for an organization to operate in, so in that sense it fits well within my daily work."

- Informant at the Ministry of Labor and Social Affairs

The reactions to the MEPIN definition show that there is a need for classifying incremental and radical innovation in the public sector, and that the phrasing 'significant change' needs to be elaborated or clarified.

4.3 THE IMPORTANCE OF LEADERSHIP

During the course of the interviews, the importance of managers often came up. Especially when asked about the drivers for innovation, informants at both ministerial and agency levels often mentioned leadership, as well as leadership responsibilities and qualities. Several of the informants especially stressed the importance of managers taking an active role in implementation. Indeed, one informant at the agency level stated the following:

"Innovation is a managerial responsibility. It is a misunderstanding to believe that lower level employees want to do things new and differently. They do not want to do things new and differently, they would prefer to do things as they always have."

-Informant at SIVA

This informant strongly suggests that managers carry the responsibility of implementation and initiating innovative activities in the organization. Another informant that agrees with the viewpoint that managers carry the responsibility provided the following quote;

"I as a manager have to take ownership in driving forward innovation. I can't have a secretary do it for me"

-Informant at The Norwegian Public Roads Administration

The two informants above suggested that without some degree of active leadership, the lower level managers and employees in an organization would not necessarily want to incorporate change. This is strongly exemplified by another informant, at the Ministry of Labor and Social Affairs; they attempted to increase the mobility of employees by offering non-mandatory opportunities to change departments, but were unsuccessful. The informant explains the lack of interest among employees by stating that they have not created adequate incentives, and added;

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"It's about 'what's in it for me?' This applies for both the employee in question, but also his or her manager. The manager reacts by thinking 'what do I do if I lose this employee - will I have to get a new one?' This is an area [mobility of employees] we've had clear ambitions about, but have been unsuccessful."

-Informant at the Ministry of Labor and Social Affairs

When questioned on how to solve this issue, the informant stated that;

"It's largely about a change of culture and mentality. One must submit oneself as a part of a whole, rather than just one's own field or department."

-Informant at the Ministry of Labor and Social Affairs

Another recurring theme from the data was the managerial role of creating and affecting organizational culture. However, this role differed slightly between the ministerial and agency levels. The ministerial level informants claimed that the organizational culture of their respective ministries were very much dependent on the attitude of top management (i.e. the ministers and secretary generals). The following quote summarizes the responses at ministerial level;

"The Minister and the Secretary General and how they communicate, what their concerns are, is very important for what happens further down in the organization. If they say 'no I'm not going to do anything', then very little happens. Then we start drinking coffee. If you have an active minister who says 'I want good ideas and suggestions', then he'll get them, it is a really powerful driver. The culture here is very much aligned in such a way that we want the politicians to get what they want, to drive ahead the things they're concerned about. When the politicians say or prioritize something, the whole ministry aligns with those priorities. [...] Top management is crucial for the innovation culture and thinking."

-Informant at the Ministry of Education and Research

This quote shows the tendency the ministerial informants provided; that the ministries are very much top-down oriented. Without initiative from the top, nothing happens. The informants at the agency level described the roles of top management in a similar fashion, but also had a focus on the managerial responsibility of providing support and opening up for bottom-up processes. The following quote shows that top management is crucial for organizational culture;

"I would say leadership is terribly important. You are completely dependent on having an innovative leader who dares to receive and who has the authority and power to give. That's the most important. Management, not necessarily one person, but leaders have such great influence on organizational culture. It's important that there is support. If the leader then has the authority and opportunity to put the necessary development and innovation on the agenda it will affect the organization."

-Informant at the Ministry of Finance

One part of creating a pro-innovative culture is, according to some informants, to be encouraging towards employees and open for ideas and suggestions. Several informants, at both ministerial and agency levels, stressed that managers should not only take active roles and responsibility regarding innovation, but also encourage employees to continuously search for potential for improvement. One informant especially emphasized the need for continuous improvement and to never lower one's level of aspiration. When questioned about whether the organization has any incentives or plan on how to get employees to look for room for improvement, one informant gave the following answer;

"I feel that is a part of our management criteria, that leaders should encourage independence and creativity. [...] Our job in public administration is very defined, but there is a lot of room in that box. A lot of room to suggest policies and areas of improvement"

-Informant at the Ministry of Finance

Many of the agencies in this study either had formalized structures in place for capturing these ideas, or were actively working to establish one. On the other hand, very few of the ministries either had such a system in place, or plans for establishing one. For the ministerial level, the norm was that these ideas and suggestions should follow the traditional route through and up the hierarchy. Furthermore, the informants themselves explained that they often had to take the decision whether to promote or dismiss these ideas, as employees with new ideas approached them. The evaluation of the right and wrong timing for these ideas were based on the manager's assessment. The informants at agency level also gave more examples of how front-line staff had initiated an innovation that later were implemented. Furthermore, those who had experienced successful bottom-up innovations tended to treat these initiatives to innovation more seriously and communicate the possibilities of contribution to the employees. While the ministry level managers argued that they encouraged others lower down in the organization to come up with ideas, they did not have any system or process for this. The agency level managers also encouraged the organization, but several of the agencies had a system for incentivizing this process. It should be noted that some ministerial managers said they had attempted to implement such systems but found the process too demanding or complex. Similar statements were also found among some agency level managers, but the overall data indicates strongly that the encouragement, generation and capturing of ideas from the organizations were more systematic and prioritized at the agency level.

According to some informants, an important aspect to remember when establishing organizational culture is the symbolic value managers may hold. An informant at agency level was clear on this matter; if they were to instill an innovative culture in the organization, then they would have to lead by example, or live as they preach;

"[...] My task as the head of the organization is that it [innovativeness] characterizes us internally as well. You cannot be in customer interaction with a set of values and come home with another one, that's my opinion. You have to walk the talk"

-Informant at agency level organization

This view was found predominantly at the agency level. An informant at the Norwegian Tax Administration described the late, former CEO as a visionary who constantly sought to provide the organization motivation and direction. Although he did not focus on words such as 'innovation' or 'modernization', he instead focused on constantly improving in order to perform their societal mission in the best possible way. The following quote illustrates the behavior of that former CEO;

"I think employees in an organization such as ours are motivated by seeing their leader externally in the media [...] speaking very simply about the social and core mission [of the organizations] he believes in."

-Informant at the Norwegian Tax Administration

The informant clearly states that the organization is motivated by the actions and behavior of the manager. This quote thus illustrates the important role and influence managers have in the organization with regards to innovation. This example, in addition to the other findings presented above, will be further discussed in the

following section. The discussion will evaluate the findings from this study in light of existing theory and literature from the field.

5. DISCUSSION

The findings described above shows that managers in the Norwegian public sector overall exhibit a good understanding of innovation on a conceptual level. However, the analysis showed that there might be a need for a clarification of the term. The lack of a common understanding could result in misinterpretations, imprecision, and misleading communication within, and between, public organizations when engaged in innovation activities. The following discussion will highlight the reasoning behind this suggestion. The role and responsibility of managers, why and how this relates to having a good understanding of innovation will subsequently be discussed.

5.1 THE CONCEPT OF INNOVATION

The government white paper 'Innovasjonsmeldingen' has its own definition of innovation, while the Ministry of Local Government and Modernization put forth a simplified version of that definition meant for the public sector, before putting forth an even more simplified version. The existence of several differing definitions may lead to differing understandings of innovation, which may serve to complicate communication regarding innovation within the public sector. This could be exemplified by a quote made by a ministerial level informant;

"The Secretary General has expressed a desire for the ministry to become more innovative, and uses that term [innovation] actively, in fact."

-Informant at the Ministry of Labor and Social Affairs

With many differing definitions of innovation in the public sector, this type of communication may be ambiguous, and subject to subjective interpretation. As the findings illustrated, several of the managers used the innovation term loosely in relation to terms such as 'creativity', 'change', 'modernization', and 'renewal'. If the concept is used imprecisely and in a variety of settings, it can cause confusion. This can lead to the concept being used to describe almost any change, and will thus cause it to be drained of any real meaning (Storey and Salaman, 2005). Due to managers' large influence on organizations, excessive use of the term 'innovation' may lead to a skewed perception of innovation within the organization (Storey and Salaman, 2005). This point may be expected to be especially true for public organizations in Norway, which are characterized by hierarchical structures and being strictly line organized. In this structure, the communication from the top managers follows clear lines through and down the organizations.

Additionally, the Government white paper definition, and both of the Ministry of Local Government and Modernization's definitions, avoids mentioning degree of novelty or significance. If the possible explanation by Arundel and Huber (2013) is correct, that public sector managers over-report innovations compared to the private sector, then these types of simplified definitions would not aid in future measurements of public sector innovation. This is due to the ambiguous and encompassing nature of the definition, allowing freedom to interpret what may be classified as an innovation. This could further contribute to explaining the high

innovation rates from the public sector. With the public sector constantly changing and adjusting to the surrounding environment, these organizational adjustments may be interpreted as innovations by managers (Bloch & Bugge, 2013).

The issue regarding significance in the MEPIN definition seems to have close ties to the difficulties associated with the distinction between incremental and radical innovation. Bloch and Bugge (2013) raise questions as to why the MEPIN survey showed such a high share of innovative public organizations. They suggested that there is a need for modifying the definition of innovation, and specifically suggested that this could be done by distinguishing more clearly between incremental and novel innovations. Similar experiences with the definition were also found by Arundel and Huber (2013) in their study on Australian managers, and during the pilot study for the MEPIN study (Annerstedt and Bjorkbacka, 2010).

Where is the line between incremental and radical innovation? Several of the large changes in the agencies involved in this study would be considered radical innovations today, after being fully implemented. However, these innovations were not implemented over night and most are the results of incremental innovations over a certain time span. It is in the retrospective view that these innovations are considered as radical. With this in mind, a more appropriate description of this type of public innovation process could therefore be 'incremental revolution'[2].

This presents a challenge to categorizing, and subsequently measuring, innovation. Many scholars agree, that in order for a measure or change to be considered an innovation, it has to be implemented (Storey and Salaman, 2005; Borins, 2000, 2001; Fagerberg, 2005; Hartley, 2005). That is the distinction between an invention and innovation (Storey and Salaman, 2005). However, requiring implementation may lead to many large changes in the public sector going unrecognized as innovations at the time of asking, when in fact the changes are underway. As one of our informants said, many innovations in the public sector have to be implemented over long time periods, due to organizational complexity and accountability. This is exemplified by the implementation of pre-filled tax returns by the Norwegian Tax Administration. The informants at the Norwegian Tax Administration described the process of implementing the pre-filled tax returns as lasting several years, in an almost parallel organization, because; *"the tax 'machine' has to run every year, Norway needs the income, the cash flow from taxes."* Lastly, discounting innovations due to the lack of application/implementation can be problematic, because while it may seem sensible to discount failed inventions or ideas, apparent failures may lead to success at a later point in time (Storey and Salaman, 2005).

Much of the literature assigns importance to typologies of innovation due to, among other reasons, measurability. A few informants stated that it is difficult to divide innovations into separate types. An example of this mentioned by the informant at the State Educational Loan Fund, is the development of an automated online application process. For the user this would be perceived as a service innovation, while for the organization it would be a process innovation, as the application processes would be improved. This example illustrates that an innovation can be difficult to categorize, as the perception of it can vary depending on the person being asked. This subjective nature of the understanding of innovation was also mentioned by another informant, when reflecting on innovations that are pushed on employees;

"It [the innovation] will not always feel like an improvement, but it may be an improvement for someone other than the user"

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[2] Credit for this phrasing and input to Camilla Tepfers in InFuture AS

An explanation to the difficulty associated with assigning typologies to innovations could be the close borders and blurred distinctions between the different types of innovation. On the other hand, the explanation could be that the distinction between the various forms of innovations is not understood or known by the informants. Similar issues were found by Arundel and Huber (2013), in their study of Australian managers.

5.1.1 IMPLEMENTATION - THE LOST PHASE

Glor (2001) argues that implementers are highly important based on the fact that many innovations falter at the implementation stage. Several of the informants seemed to underestimate the implementation phase of innovations. This was especially dominant with the informants on ministerial level. These informants showed a tendency of being more concerned with fitting their work on policy development into the innovation term, rather than seeing the innovation process as a whole. Furthermore, several of the informants were eager to talk about ongoing projects they defined as innovations. This clearly illustrates that the innovation process is not clearly understood, as implementation or introduction is a crucial aspect of the innovation process. An example is the informant at The Norwegian Labor and Welfare Administration, who described an ongoing project as one of the major innovation projects of the organization. A common example of innovation activity mentioned by several of the ministerial level managers was the work on, and development of, Ministerial directives. One ministerial level informant had recognized the lack of focus on implementation in the public sector;

"In my experience, in the public sector, the implementation process is underestimated. One might not be well enough prepared for it. But I think that the implementation process has to be a part of the innovation process, because you're not finished until you're finished"

-Informant at the Ministry of Education and Research

This indicate that managers at ministerial level attempts to fit their work responsibilities and performance into the innovation category. An explanation to this could be that they wish to be perceived as modern and up to date with current societal trends, as innovation has become a trend word used increasingly by multiple sources both within and from the public sector and among politicians. Indeed, one of the informants at the ministerial level identified the urge to conform to current organizational trends to be a driver for innovation. This could indicate that the desire to be perceived as innovative is greater than the wish to innovate for the sake of the outcome. This could be problematic as 'innovation' thus can become an empty word used by public organizations seeking legitimacy, and to be perceived as progressive and dynamic, compared to other organizations (Olsen, 2004; Boyne et al., 2005).

The State Educational Loan Fund focused on implementing while developing. Despite the project not being completed, the organization had implemented several of the components of a new case management and client system during the development process. This process represents an interesting example as it shows how a public organization can benefit from flexibility and trial and error during the development phase. Another important result of the continuous implementation is the motivating effect it can have on employees;

"I think when employees see that things improve out there, among our customers, that the impetus [for innovation] that exists in the public sector is just as great as in the private sector."

-Informant at the Norwegian State Educational Loan Fund

The next section is very closely related to the aspect of implementation, as it will discuss the role and importance top-managers hold regarding innovation.

5.2 THE IMPORTANCE OF LEADERSHIP

The Government white paper 'Innovasjonsmeldingen' states that it is a managerial responsibility to establish and foster an innovative culture in public organizations (Meld.St. 7., (2008-2009)). However, few of the managers in this study knew the government's own definition of innovation. If the government definition(s) are not well enough communicated, then it may be reasonable to question what else is not adequately communicated. Are Norwegian public managers aware of the roles and responsibilities required of them regarding innovation?

The findings showed that several organizations, especially at the ministerial level, attempted to increase employee mobility. Some were successful and others were not. Some attempted this by offering non-mandatory opportunities to change departments. Two informants argued this was unsuccessful due to lack of incentives. Both claimed that the key to solving this issue was a change of mentality and culture to be more accepting of, and willing to, change. However, the informants admitted that the management in the ministries had not taken active roles as implementers, but claimed that it was deliberate to not force the changes on the employees. If one accepts that the establishing of norms, the creation of culture for innovation, and the attitudes for change is a managerial responsibility, then one might say that the top-managers of the organizations in question carry the responsibility of implementing these changes. However, this situation can perhaps be explained by the inherently bureaucratic nature and silo characteristic structure of the ministries in question, and ministries in general. The silo structure encourages employees to become experts within their field (Moore, 2005), which, according to some of the informants, is a strong driver to stay in their current department. Additionally, according to the same informant, employees quickly become very socialized and want to stay where they are.

The informant who provided the following quote explained how he as a manager had to actively develop a pro-innovative culture within the organization:

"I was a bit surprised about the unwillingness to change here when I first started, especially considering the work they did. So people are quick to enter the trenches. [...] I don't think people here are any more innovative or willing to change than other places, but because we work with this [innovation] all the time we are more exposed to those types of things compared to others. So there is more knowledge about it and they [the employees] see that it is this we are working with"

-Informant at SIVA

The managers and leaders of organizations generate a state of innovation through their passion about the outcomes, the goals and ambitions, not to mention the aspirations they exhibit for the organization (Albury, 2011). This passion and drive was most evident among the managers at agency level, which can explain the more positive description and attitude towards innovation, and an innovative culture among these managers'

organizations. The findings suggest that some of the informants understand that the managerial role also involves a symbolic function. For example, the informants at the Norwegian Tax Administration explained how the former CEO used every opportunity he had to communicate the values and norms he wanted the organization to reflect. This supports Jacobsen and Thorsvik's (2007) suggestion of managers' symbolic function in the organization. However, this important function was not understood by all managers encountered in this study.

5.2.1 IDEA CAPTURE

Overall the informants gave the impression that suggestions for innovations and initiative from front-line employees and middle managers were valued in the organizations. Many scholars identify the need and involvement of the whole organization in the innovation process from the creation of ideas to implementation (Borins, 2001b, 2002, 2010; Hartley, 2005; Mulgan and Albury, 2003). Based on these insights, this finding should be considered a positive trait among the managers in Norwegian public sector organizations. However, despite this recognition of potential bottom-up initiatives by both ministerial and agency level managers, few had structured or organized channels for managing such initiatives. With the bureaucratic nature of these organizations, the standard method for capturing these ideas was to let them follow the line of command in the organization.

The issue with this approach is that within the large organizations, these lines contain several levels the idea must pass. Another inhibiting factor is that managers may act as gatekeepers and potential barriers toward innovation. Their potential role as barrier was not identified nor admitted by the managers themselves during the interviews.

Furthermore, considering the administrative nature of these organizations, there should be a large potential for organizational and process related innovations and activities (Bloch, 2011). These are innovations that often can originate from others than the top management, as the empirical evidence from Borins (2001a, 2002) illustrates. Additionally, those organizations that had these structures reported a positive impact on the organization's innovative attitudes, as it also signals the top management's recognition of the whole organization as a source for innovation. This can be exemplified by the following statement;

> *"I believe it has created a culture of 'it is possible' and we must attempt to preserve that culture"*

> -Informant at The Norwegian Public Roads Administration

It could be argued that because these organizations had experienced the potential benefit and source for innovation, all employees in the organization could be, and therefore were, more willing to find a solution to capture these ideas.

6. SUGGESTIONS FOR FURTHER RESEARCH

The increased focus on public sector innovation has increased the knowledge and insight into the topic; however, the understanding of the sources of public sector innovations is still inadequate (Sørensen &

Torfing, 2011). It is therefore necessary to promote certain areas that should receive attention from scholars in the future.

This study has uncovered some interesting findings regarding how managers in public organizations understand and view innovation. However, due to the small sample and novelty of this study, it is necessary with further studies into the topic of public sector innovation, with a managerial perspective. We therefore propose a larger scale study, with a similar approach to the issue at hand. This study should focus on the Norwegian public sector, but a preferred approach would be with the inclusion of other countries, as this would allow for comparisons.

A larger scale study could additionally take a step further in exploring the managerial role in the different phases of the innovation process. The findings from this study suggest that the 'implementation phase' could be underestimated in the public sector. Further research should therefore investigate the role of managers throughout the innovation process. This suggestion thus involves a more longitudinal dimension, which could provide evidence and insight into how the innovation process proceeds within the public sector. As the government white paper 'Innovasjonsmeldingen' stated, the creation and fostering of an innovative culture is a managerial responsibility, this has yet to receive much attention from scholars.

7. CONCLUSIONS

Innovation in the public sector is crucial in order to maintain the high levels of welfare services the public sector provides, and for the public sector to be able to address both the economic and societal challenges it faces (Bloch & Bugge, 2013).

The purpose of this paper was to investigate how managers in public organizations understand and view innovation. This topic is of interest and importance due to several reasons; 1) Without a clear definition or understanding of the core terminology, the term can easily be drained of any real meaning 2) In order to properly measure innovation in the public sector, a common definition is vital. 3) The lack of a clear understanding or definition increases the likelihood of misuse and misinterpretation when communicating among and within public organizations.

The research question this paper has sought to answer is:

How do top-managers in the Norwegian public sector understand and describe innovation, and how do they perceive their role and responsibility in the innovation process?

To answer this research question a multiple-case study was conducted, interviewing top-managers in public organizations at ministerial and agency level in the Norwegian public sector.

The findings from the empirical study illustrates that innovation is understood on a conceptual level among the top managers. However, the analysis also uncovered that there is a lack of a common definition of 'innovation' among top-managers in the public sector. It is the authors' opinion that the Norwegian Government needs to develop one definition of public sector innovation and communicate it thoroughly to all of the public sector. It is important to communicate it especially to top-managers, who, according to the Government white paper 'Innovasjonsmeldingen', carry the responsibility of innovation in the public sector.

The new definition of innovation in the public sector should include some description of the degree of novelty. The description of novelty in the MEPIN report is recommended. The new definition should also include a classification of what constitutes incremental and radical innovation. It should emphasize that both are important categories of innovation, and that incremental innovation may lead to radical changes over time, which could be classified as 'incremental revolutions'. The rationale for including this classification is to lower the current confusion regarding the difference between innovation and organizational development. Lastly, the definition should include typologies of innovation. This is important when attempting to measure innovation activities in the public sector. It can further give indications on where the public sector innovation activities are improving and lagging behind. A definition including typologies of innovation can also give respondents reflections of their organization's innovative activities (Arundel and Huber, 2013).

Another important aspect of innovation that warrants the attention of managers in Norwegian public sector organizations is implementation. We agree with the literature, in that a change or measure is not considered an innovation until it has been implemented. Managers in the public sector may in this regard have much to learn from the example from The State Educational Loan Fund, who continuously implemented aspects of their innovation project as it became viable. This 'lean' implementation method provides continuously improving services for end-users and acts as a motivational boost for employees.

Although, as Borins (2001a) study illustrated, many innovations are initiated by low level employees, it is the managers' responsibility to create the culture and conditions in which these employees may thrive (Damanpour and Schneider, 2006; Meld.St. 7., (2008-2009)). This responsibility seems to be well understood on the agency level, but seemed less clear on the ministerial level. The findings further suggest a need for more systematic structures for capturing the bottom-up ideas and initiatives in the public organizations in this study. Managers should be advised that bottom-up innovations have traditionally been one of the largest sources of innovation in public sectors. Lastly, managers, especially at ministerial level, should be made aware of their function as gatekeepers. If not reflected upon, it is possible that the gatekeeper function becomes a barrier towards innovation.

Considering the complexity and importance of public sector innovation, it is important to stress the need for further research in order to gain a better understanding into the dynamics of innovation in the public sector. The findings and conclusions from this paper should therefore be considered a contribution to this growing field of research, and hopefully spark interest into further studies in the field.

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PAPER 2

THE ENVIRONMENTAL CONTEXT'S INFLUENCE ON PUBLIC ORGANIZATIONS' INNOVATIVE ABILITIES

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ABSTRACT

The relationship between the public sector organizations to different groups, such as; citizens, private companies, and its sectorial environment, is important for innovation, as these groups can be sources for innovation. Within the field of public sector innovation, this topic has, despite its importance, yet to receive much attention. This paper addresses this gap in the literature by studying the influence the environmental context may have on public organizations' innovative abilities. The study is based on interviews with 19 informants in 14 organizations at ministerial and agency level of the Norwegian public sector.

The study finds that organizations' ability to innovate is closely connected to the ability to adapt to an altered environment. Thus, the findings indicate that the environmental context of the organization does influence and affect the organization's innovative abilities. This influence was especially expressed among the organizations operating in, or oriented towards, industry sectors. The organizations in this study look to develop and innovate according to the environments they operate in. The evidence further suggests that managers at agency level show more permeability to the organizations' environmental context, compared to managers at ministerial level. This could be explained by a higher degree of user and market orientation, which involves more frequent interaction and involvement of external actors. However, innovation must be considered as a complex phenomenon. This paper thus hopes to inspire further research into the topic of public sector innovation, and the environmental influence on organizations' innovative abilities.

1. INTRODUCTION

"No man is an island, entire of itself; every man is a piece of the continent, a part of the main [...]"

- John Donne, English poet [1572-1631]

A competitive economy with dynamic growth requires a modern, innovative public sector (Maroto and Rubalcaba, 2008). The notion of the public sector as stale and non-innovative is, despite the somewhat common view, not the case (Potts & Kastelle, 2010). It is clear that the public sector has undergone dramatic transformations and changes during the last 40-50 years as a result of innovations. This is evident if we look to areas such as social welfare, employment policy, environmental regulation, and health care (Sørensen & Torfing, 2011).

The public sector plays a key role in the distribution and creation of knowledge in the society (Windrum, 2008; Maroto and Rabalcaba, 2008). With a large and comprehensive public sector, it is important, and in the population's best interest, that it is run in the most efficient and best possible way. This includes a constant search and desire to find new and better solutions to provide welfare to the public (Teigen, 2007; Albury, 2005). In addition to cost reduction as a result of innovation in the public sector, other benefits such as increased citizen satisfaction, improved image of the public sector, and innovation boost in the private sector can follow (Alves, 2013). Hence, studying innovation in the public sector is fundamentally important, as it affects multiple aspects of the society (Alves, 2013; Glor, 2001; Meld.St. nr. 7 (2008-2009)).

Innovation must be understood as a complex process, and in order to increase our understanding of public sector innovation, it is important to depart from the one-factor explanations of the phenomenon (Lægreid, Roness and Verhoest, 2011). The innovation process can often involve collaboration and interaction between many different actors, such as both public and private organizations, politicians, civil servants, experts, and user groups, to name a few (Borins, 2001b; Sørensen & Torfing, 2011). With innovation and the innovation process, an organization must also expect changes, and the role and leadership of managers are important throughout this process (Borins, 2000; Fernandez and Rainey, 2006). We will in this paper study managers at two levels of the Norwegian central government, and how the environmental context in which the organization operates in can affect the public organizations' innovative capacities and abilities. The two levels represented in this study are ministerial and agency level. In this paper, we will focus on how factors, such as the sectorial responsibilities, relationship with citizens, other public and private entities, and day-to-day activities influence the organization. The central research questions for this paper is as following:

RQ: *How does the environmental context in which ministries and agencies operate influence their innovative abilities, and is there a difference between the two levels of government?*

Thus, this paper will contribute to investigating and exploring how the environmental context of public organizations can influence the innovative abilities of the organization. When discussing and studying public sector innovation, it is important to consider the social context the public sector institutions interact in, which includes the relationship with other public sector organizations and the private sector (Maroto and Rubalcaba, 2008).

The relationships and environmental links that exists around a public organization, and the influence it can have on management and the innovation process, has largely been overlooked by public sector innovation researchers (Boyne, Gould-Williams, Law and Walker, 2005; Meyer and Goes, 1988; Maroto and Rubalcaba, 2008). This can be considered strange, as governments and policy makers have long recognized the role of,

and the need for, innovation for economic competitiveness and development, as it is presented as a critical element for economic performance (Storey & Salaman, 2005). It is paradoxical that the public sector organizations would be ambivalent to innovation, as they eagerly support innovation, but are ignorant on innovation on their own behalf (Djellal, Gallouj and Miles, 2013). The increased focus on public sector innovation has increased the knowledge and insight into the topic; however, the understanding of the sources of public sector innovations is still inadequate (Sørensen & Torfing, 2011). The purpose of this paper is to contribute to the growing knowledge on innovation in the public sector, by studying the potential source for inspiration to innovate that can exist in the linkages to contextual factors. This paper should be considered a contribution to the innovation management and public administration literature, as it, from a managerial perspective, explores the influence the environmental context in which public organizations operates in have on innovation.

In order to accomplish this goal we will first conduct a literature review of the related research from the field. The topic of public sector innovation has experienced increased attention during the last 15 years, from academics, experts, and governments, not to mention from a variety of research disciplines, such as Economics, Management, Innovation, Sociology, Political Science and Public Administration (Llewellyn, Lewis and Woods, 2007; Djellal, Gallouj and Miles, 2013; Arundel & Huber, 2013; Mulgan, 2007). The Management and Public Administration literature on the other hand, tended to focus on the role of managers, while the Organizational literature was primarily concerned with how the innovation and change process affected cultural aspects within the organization. Research and scholars from the political science discipline has tended to focus on the structural aspects of the innovation process and how these could affect the process. The research field of public sector innovation has, despite the increased attention, as Mulgan (2007) argues, yet to produce key texts or concepts that are widely accepted. More specific for this paper, there is a dearth of empirical research on the environmental context of public organizations (Boyne, 2002). Few scholars have studied this topic, and there is much to learn on how different organizational contexts influence innovation (Hartley, 2005). With few contributions on the topic from the public sector innovation perspective, the literature review will explore several different contributions from the innovation research field.

1.1 DEFINING KEY CONCEPTS

Before we review the literature on innovation, it it necessary to clarify how central concepts for this paper should be interpreted. First we will clarify the innovation term, before the meaning behind the 'environmental context' will be described.

Scholars have debated the creation of a uniform definition of innovation for the public sector extensively. Yet, no consensus has been reached in terms of a common definition (Damanpour, 1996; Bland, Bruk, Kim and Lee, 2010). We will in this paper apply the broad definition of innovation also used in the MEPIN[1] report (Bloch, 2011: 14):

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[1] MEPIN: Nordic research project "Measuring innovation in the public sector in the Nordic countries"

"An innovation is the implementation of a significant change in the way your organization operates or in the products it provides. Innovations comprise new or significant changes to services and goods, operational processes, organizational methods, or the way your organization communicates with users.

Innovations must be new to [the] organization, although they can have been developed by others. They can either be the result of decisions within [the] organization or in response to new regulations or policy measures."

The reason for choosing the MEPIN definition in this study is that it has already been used in a large-scale survey in Nordic public organizations, and thus provides valuable grounds for comparison. Additionally, it is a definition that has garnered support among several scholars.

With the key concept of innovation clarified, we can turn the attention to the meaning behind the 'environmental context'. For this study, the environmental context is the area in which the organization conducts its activities, obtain inputs, respond to its demands, and offer the services or products (Damanpour and Schneider, 2006; Malerba, 2005).

The next section will present a literature review of some key insights existing research on public sector innovation has reached. The section following the literature review, section 3, will contain a description of the research design, the multiple-case study, used for this paper. Findings from our empirical data analysis will then be discussed in section 4. Section 5 discusses these findings in light of theory and existing literature from the field. Lastly, we will propose suggestions for further research, and draw conclusions in section 6 and 7, respectively.

2. LITERATURE REVIEW

With these clarifications of central concepts of innovation, the focus can now be turned to reviewing the literature. This literature review should not be considered a complete review of the whole innovation research field. With vast differences in models, size and organizational structures between European country's public sectors, the performance can vary considerably (Maroto and Rubalcaba, 2008). The scope of this paper is the Norwegian public sector. However, in order to gain a better understanding of the current situation on the field of research, it is necessary to explore and review the contributions that have emerged from a variety of countries. This will hopefully lead to uncovering possible, as well as rivaling, explanations to the phenomena this paper seeks to explore.

2.1 EXISTING LITERATURE

The research field on innovation is vast and can be categorized in numerous different ways, based on academic position or unit of analysis, to mention a few (Storey & Salaman, 2005). The main body of research on public sector innovation has traditionally followed two streams (Arundel & Hollanders, 2011). The first assumes that innovation strategies and processes in the private sector firms are applicable to the public sector. The second stream has primarily focused on the differences in these innovation processes and emphasizes that a model for innovation for firms in the private sector is not applicable for public agencies (Arundel & Hollanders, 2011). These scholars have tended to identify the special features, both similarities and

differences, between the private and public sectors that affect the innovation process (see Mulgan and Albury, 2003; Halvorsen, Hauknes, Miles and Røste, 2005; Boyne, 2002; Albury, 2005).

The management literature published in the 1980s and 1990s was strongly influenced and focused on the adoption of various NPM reforms, and the impact these had on organizational changes in the public sector (Arundel & Huber 2013). With the introduction of New Public Management (NPM), public organizations were to introduce managerial and structural features from the private sector into public organizations and bureaus (Godø, 2009; Poole, Mansfield and Williams, 2006). Such features include; management by goals and objectives (Meld.St. 7., (2008-2009)), total quality control, competitive tendering, consumer choice, and performance management (Poole et al., 2006). The introduction of NPM was based on an assumption that private market practices were superior and should be introduced in the public sector in order to create successful governmental administration (Poole et al., 2006). For the Norwegian public sector, the introduction of NPM has involved two components, management by goal- and performance, and organizational structural devolution (Christensen, Egeberg, Larsen, Lægreid and Roness, 2010). With the introduction of NPM, decision-making close to the users and user satisfaction are highlighted as important criteria for successful public management (Klausen, 2005). It should be noted that some of the contributions from the NPM field of research should be treated with caution, as several contributions from the 1990s to the debate around the Norwegian model are normative in their evaluations and conclusions. This includes value-related guidelines constraints when discussing the effects of cooperation and participation in the model (Amundsen, Gressgård, Hansen, and Aasen, 2011).

2.2 ASSESSING THE FACTORS INFLUENCING INNOVATION

The possible effect the environmental context may have on an organization has received more attention from private sector scholars than from their public sector counterparts. Innovation scholars have identified the role of the external environment as an important source for organizational innovation, as the activities the organization performs is conducted within an environmental context (Camison-Zornoza, Lapiedra-Alcamí, Segarra-Ciprés and Boronat-Navarro, 2004).

From the organizational literature, Meyer and Goes (1988) argued that organizations interact with their environments, which in turn influences the organization and management. When applied to a public sector perspective, it can be proposed that the relationships and links to organizations, and the society close to public organizations, can provide inputs, resources, and legitimacy for the innovation process (Goes and Park, 1997; Damanpour and Schneider, 2006). The relationship between the public sector to citizens or private companies is important, as these can be sources for innovation and ideas. From one perspective they exist outside the public sector scope, but at the same time they experience the effects of new policies and services directly (Alves, 2013). Following the same line of argumentation, Olsen (2004) argues that innovation is more likely to occur in organizations that are in contact with, or exposed to, other innovative organizations or environments on a regular basis.

Another, more structural, approach to the research field, is the sectorial system for innovation. The perspective proposes that each sector has different patterns for innovation, as each sector has different technological and innovation regimes (Godø, 2008; Malerba, 2005). The 'sector' should be considered similar to the definition of the 'environment' previously outlined in this paper. The sectorial system for innovation emphasizes the interaction and dynamics between different actors within an environmental context. Thus, the

perspective claims that innovation differs between sectors due to the different actors, sources, features, organizations and boundaries and the interaction, linkages and relationships between these. We can further look at the task-related perspective that emphasizes the technical environment of the organization. Based on this perspective, the organization's innovative abilities will be determined by the type of tasks the organization performs (Lægreid et al., 2011).

When these perspectives are applied to a public sector context, it can be argued that in those organizations that frequently interact with private sector businesses and organizations, there would exist some spillover effect (Maroto and Rubalcaba, 2008). Public organizations with direct delivery to citizens and businesses can therefore be expected to be more innovative, as they interact most frequently with citizens and private organizations as customers and stakeholders (Lægreid et al., 2011). On the other hand, it can be expected that agencies and ministries engaged in policy formulation, exercising public authority and regulatory tasks, will be less innovative. However, in their study of the innovative culture and activity of 121 Norwegian and Flemish state agencies, Lægreid et al. (2011) found that the degree of innovation in state agencies will not differ that much across political-administrative cultures. The pilot study for the MEPIN research showed that public organizations in the central government had between 5 to 10 percentage points higher innovation rate on product and/or process innovations compared to non-central government organizations in Iceland, Sweden and Norway (Bloch, 2011). Furthermore, organizations in the central government reported to be more likely to have collaborated with external organizations, e.g. businesses, when developing the innovations (Bloch, 2011).

Berry (1994) found that public organizations that interact regularly with private sector businesses as part of their core mission, would be more likely to adopt strategic management practices, as they would emulate the good practices reflected in the environment they interact in. Following the same line of thought, it can be proposed that public organizations that interacts and operates in innovative environments will be more likely to show a more pro-innovative attitude. Similarly, Boyne (2002) argues that public organizations are open systems that are easily influenced by external events. It is one of the responsibilities of the managers in these organizations to ensure permeability, so that the services the organization provides are responsive to the needs in the society. Therefore, the private sector can be viewed as an important source for innovation for public sector organizations (Staronova and Malikova, 2008). Borins (2001a) similarly argues that public organizations that look beyond the organization's borders for learning could increase the innovative abilities of the organization.

These contributions share several similarities with the perspective of a market-based approach originating from the New Public Management branch. The theory states that with a market-based approach to management in the public sector, the performance of public services will be improved. By strategically aligning the organization to its external environment, being customer oriented, and proactive, the organization can be more efficient in carrying out its mission and purpose (Walker, Brewer, Boyne and Avellaneda, 2011). For public sector organizations, this involves reaching the level of performance necessary in the eyes of the stakeholders, such as citizens, politicians, and government overseers, to name some examples (Walker et. al., 2011).

2.3 THE SPECIAL CONDITIONS OF THE PUBLIC SECTOR

It is important to consider the special conditions of the public sector when evaluating the innovative performances and theories. Bernier and Hafsi (2007) proposes that the lack of a market structure in the public sector can further reduce the innovative activities in public organizations, as it leads to less exposure towards cost-cutting measures and efficiency requirements. Thus, it can be expected that the pressure for efficiency will not be similar in those organizations. However, despite lacking a market structure similar to the private sector that emphases profit, public organizations are subject to a similar pressure to maximize output (welfare) from the available, and often limited, economic resources (Meld.St. 7., (2008-2009)). When investigating the public sector, it is possible to distinguish between types of organizations, based on the level of government and types of activities or services they provide (Bloch, 2011). Ministries can be seen as distinctive from other institutions as their main products are policies. Similarly, many of the agencies are less involved with the provisions of services. However, because of the administrative nature of these organizations, it can be argued that they would have a great potential for organizational and process related innovations and activities (Bloch, 2011). It should further be mentioned that several agencies in the central administration do in fact provide services directly to citizens.

Moore (2005) argues that innovation in public agencies is important to maintain efficiency, effectiveness, and responsiveness, as the political mandate guiding the public agencies change over time. Similarly, the clients the public organizations are aimed at serving also vary over time. Thus, government managers have to innovate to keep up with the changes, as they will initiate change (and innovation) within their own organization as their surroundings evolve.

However, as Mulgan (2007) argues, the environment in which governments and public organizations operates in can be perceived as less encouraging, as it demotes several features closely associated with innovative activities, such as risk taking and experimentation. In their study, Meyer and Goes (1988) found evidence that the characteristics of the innovation itself and other organizational variables, such as size and complexity of the organization, as being the most important explanatory factors in innovation adoption. Additionally, with public organizations being inherently more bureaucratic, with more formal procedures for decision-making, than their private sector counterparts, this can be proposed to lead to public managers having less freedom to be responsive to their surroundings. Thus, they cannot react as they see fit to the circumstances facing them (Boyne, 2002). In addition, it is important to keep in mind that there are unique systematic characteristics between the public and the private sector that makes them distinct (Godø, 2008).

The traditional characteristics of public sector organizations as rule-bound, bureaucratic silos dominated by red tape processes, characterized by inertia and deadlock, further describes the public sector's special conditions (Sørensen & Torfing, 2011). The empirical evidence from the widespread EU report on public innovation, Publin (Koch, Cunningham, Schwabsky and Hauknes, 2006), which highlighted the lack of communication and learning both internally and between agencies in the public sector as a barrier for innovation in public agencies, can illustrate these special conditions.

The goals and objectives of public sector organizations is another special element that can affect the organizations' ability to innovate. When compared, the goals and objectives differ between the private and the public sector organizations (Klein et al., 2013). Public sector organizations often have multiple and conflicting objectives (Klein et al., 2013; Dixit, 2002) The consequence of this ambiguity means that the performance targets for public managers can be inherently unclear, and compared to the private sector, the criteria for success are often beyond the borders of the organization as one of the primary objectives and tasks for a

public sector organization, is to serve the rest of the society in a way that enables other individuals, organizations, and corporations to function (Teigen, 2007).

These special factors can explain the expected behavior and role of employees of public organizations in relation to innovation. Koch and Hauknes (2005) state that the traditional view of the role of civil servants has been to be subordinate, hierarchically, to the political leadership and the bureaucracy. This involves that it is not expected for public employees, especially those found on the level below the ministries, to come up with new ideas for how to change the public services (Koch and Hauknes, 2005; Hartley, 2005). Additionally, with organizations in the public sector under constant pressure for deliveries and administrative burdens, this can be expected to drive out the motivation to innovate (Mulgan and Albury, 2003). This can result in a stronger focus on day-to-day deliveries and duties. This traditional view of public employees is, however, changing. Borins (2001a, 2002) found in his empirical research that much of the innovation reported in the public sector in fact is initiated by other actors than the political leadership of the organization. We can therefore see that the traditional view of innovation in the public sector, with the design performed by policy-makers and implementation performed by public managers, is according to recent research not as valid as first suggested (Hartley, 2005; Borins, 2001a, 2002). Interestingly, the conclusions from the case studies presented in Windrum and Koch (2008) indicates that there is a conflict in viewpoint and perspective among political and service entrepreneurs in the public sector, depending on which level of the hierarchy they operate. While the political entrepreneurs, on the higher level of the bureaucracy, were promoting efficiency gains through organizational restructuring, the service entrepreneurs on the lower level were promoting innovations that improve services (Windrum, 2008).

2.4 LIMITATIONS TO THE LITERATURE

It was not until the last 15 years that the large-scale studies from the field was initiated. Prior to this, the case study method dominated the research field. One of the issues that should be addressed with the current empirical research on public sector innovation is concerning the methodology. With these large-scale studies, such as the MEPIN and Publin projects, the methodology shifted towards surveys, and these have been based on similar surveys for the private sector (Arundel and Huber, 2013). One of the issues with these approaches is that they do not take into account differences between public organizations, as they tend to study the public sector as a whole.

Additionally, with the differences in models, size and organizational structures between European countries' public sectors, the performance can vary considerably (Maroto and Rubalcaba, 2008). With much of the existing literature focusing on comparison between national public sectors, as presented above, this paper will not follow the same path. Because of these differences in the public sectors, the question of relevance of the comparison results should be raised. This paper will rather explore the Norwegian public sector independently, in an attempt to increase the knowledge and understanding of the complex process that innovation in the public sector represent. Despite the increasing body of literature on the field of public sector innovation, as mentioned above, the understanding of the sources of public sector innovations is still inadequate (Sørensen & Torfing, 2011)

Furthermore, while scholars and experts have various theories and opinions on the topic of contextual influence on innovation in public organizations, this paper explores the managerial perspective, as the design for the research emphasizes direct contact with the managers in the organizations. The next section will

present the research design and method behind this study on managers in the Norwegian public sector. The section will contain both a more in-depth description of the case study research design and a discussion regarding potential weaknesses and implications this choice of methodology can have on the findings.

3. METHODOLOGY

The methodology chosen for this study is an inductive multiple-case design. The empirical, qualitative data has primarily been collected through in-depth interviews with informants in 14 Norwegian public sector organizations. The interviews were conducted at the public organizations facilities, and a total of 19 informants were included in the interviews. The informants and organizations in this study are divided into two groups with 7 organizations and 10 informants at ministerial level. The second group consists of 7 organizations and 9 informants on agency level. One interview was conducted with each organization.

The different sub-sections will include a more detailed description of the methodology. First the rationale behind the research design will be presented, before the data collection and analysis phase will be discussed. Lastly, some limitations to the methodology will be debated.

3.1 RESEARCH DESIGN

Section 2, the literature review, illustrated that the research on public sector innovation and managers with the perspective on the organizations environmental context, especially in a Norwegian context, has not been a primary focus for scholars. Due to the status of the research field as far from matured, the research design for this study can be characterized as exploratory. The low maturity of the research field also proposed a suitable situation to conduct a case study, as the case research method can be a fruitful method to provide insights and knowledge on a phenomenon that there currently is little knowledge about (Eisenhardt, 1989).

3.1.1 SELECTION
The public sector in Norway consists of the public administration and public enterprises. The Norwegian public sector is divided into three administrative levels; state administration, county administration and local municipalities (Teigen, 2007). The public sector in Norway is a large employer, with almost 803 000, or 29.9 % of the total workforce, employed in the public sector (SSB, 2013).

As the research phase progressed, and the research focus was established on the potential differences and influences the level of government could represent, we had to select organizations that were linked together through sector and/or ownership to be able to generalize and compare between the cases.

The organizations and informants included in this study were a result of a strategic selection of public organizations. All informants were employed at administrative level rather than political.

Some of the organizations were identified as interesting by the researchers prior to establishing contact with the informants in the organization. The selection of case organizations to be included was further selected based on the ownership structure of the Norwegian public sector. The organizations contacted and included are part of the state administration. The public sector, and the organizations in it, are heterogeneous (Koch

and Hauknes, 2005; Bloch, 2011; Borins, 2002; Lægreid et al., 2011). It was therefore important to sample organizations from a variety of sectors in order to best be able to evaluate and study patterns and differences in the data. With the selection of multiple organizations, the potential conclusions found in the analysis can be considered more powerful, compared to a study with a smaller sampling (Yin, 2009).

The selection of organizations at agency level were based on a set of special criteria based on Talbot (2004) and Lægreid et al.'s (2011) classification of public agencies; first, the organizations must be formally controlled and owned by central ministries. For our study it was important that the agency was owned or controlled by a ministry included in the study. Second, the organization must be structurally disaggregated from other organizations, or from units within core departments. Third, the organization must have some capacity for autonomous decision making with regards to management or policy. Fourth, they must have some resources of their own, such as personnel and financial. Lastly, the organization must carry out public tasks at a national level.

The organizational structure between ministry and agency for the Norwegian public sector is illustrated in figure 1.
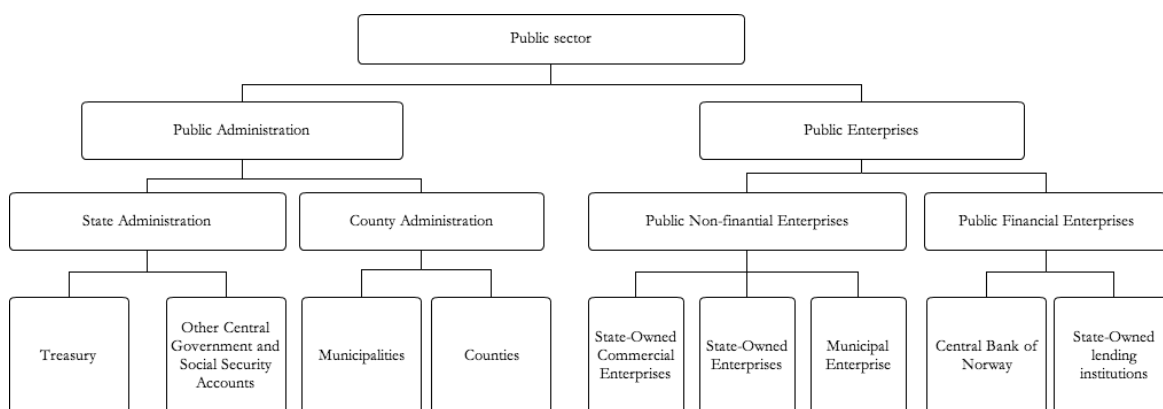

FIGURE 1: THE NORWEGIAN PUBLIC SECTOR (MELD.ST. 7 (2008-2009: 124))

3.1.2 DATA COLLECTION

Initial contact with the organizations and informants were made through e-mail and phone calls, both found on the organizations websites. In the cases where the informants' contact information was not available on the organization's webpage, web searches were conducted to find them, or LinkedIn was used. The initial contact consisted of general information regarding our research and asked if the receiver would be willing to participate or recommend us to another more suitable person in the organization. Following the exchange of emails, an appointment for the interview was set up. Prior to conducting the interviews, as preparation, the informants received more specific information regarding the structure and topics for the interview.

The interviews were performed at the case organizations' facilities, in a setting where the researchers were face-to-face with the informants. This was important to ensure that the data was collected at the case's natural

setting, and it created the opportunity for observations (Yin, 2009). Both researchers were present during all but one of the interviews. This allowed for one interviewer to take the lead during the interviews, while the second researcher took the role as observer and follow-up with questions where the informant(s) gave unclear or incomplete answers. This should be considered a strength, as it allowed for a more detailed data collection (Yin, 2009).

The interviews were conducted according to a semi-structured format. This was done in order to allow informants to shed light on unprepared topics, as well as to permit the freedom of investigating interesting topics as they emerged during the interviews. The interviews were organized into sections, which covered different themes related to innovation in the public sector, such as the managerial role, the conditions for innovation and perceived barriers towards innovation. The first section was designed with open-ended questions, where the respondent was asked to explain how he or she would define or describe key concepts of innovation. Following the open-ended questions, a definition of innovation used in the MEPIN research project was presented.

This was included early in the interview to ensure that both parties, the informant(s) and researchers, agreed upon the same interpretation of the key concepts for the rest of the interview.

TABLE 1: OVERVIEW OF ORGANIZATIONS AT MINISTERIAL LEVEL

Name of public organization	Number of informants	Length of interview
Ministry of Labor and Social Affairs	1	42:34
Ministry of Transport and Communications	2	1:04:39
Ministry of Petroleum and Energy	2	1:02:16
Ministry of Trade, Industry and Fisheries	1	52:22
Ministry of Education and Research	1	1:02:04
Ministry of Finance	1	49:03
Ministry of Local Government and Modernization	2	46:57

During the data collection phase, an interview was conducted with an informant in the Ministry of Justice and Public Security. However, because we were unable to conduct an interview with an informant at the agency level within the same sector, this case will not be included in this paper.

The interviews with the informants at ministerial level lasted for 6 hours and 20 minutes, excluding the interview with the informant in the Ministry of Justice and Public Security. In total 10 informants were interviewed at ministerial level. 5 of the informants were in a position as Director General, 1 Deputy Director General, 1 Specialist Director, 2 Senior Advisors and 1 Advisor.

The second group of informants is categorized at the agency level of the government. The numbers of informants were 9 in total. The interviews with the informants at agency level lasted for 6 hours and 26 minutes. The positions of the informants were as follows: 3 were head of the organization, 1 Deputy

Director, 2 Department Directors, 1 Section Manager and 2 Senior Advisors. Similar to the informants at the ministerial level, all of the informants were administrative staff rather than political.

The following table shows the organizations included at agency level. The table illustrates the ownership structure, as well as type of organization, the different cases represent. The number of informants in each organization, as well as length of the interview, is also included.

TABLE 2: OVERVIEW OF ORGANIZATIONS AT AGENCY LEVEL

Name of Public Organization	Type of public organization	Owner	Number of informants	Length of interview
Enova	Public Enterprise	Ministry of Petroleum and Energy	1	31:29
Norwegian Tax Administration	Public Agency	Ministry of Finance	2	1:09:44
Siva – The Industrial Development Corporation of Norway	Public Enterprise	Ministry of Trade, Industry and Fisheries	1	1:25:17
Agency for Public Management and eGovernment	Public Agency	Ministry of Local Government and Modernization	2	51:56
Norwegian State Educational Loan Fund	Public Agency	Ministry of Education and Research	1	56:23
The Norwegian Labor and Welfare Administration	Public Agency	Ministry of Labor and Social Affairs	1	50:04
The Norwegian Public Roads Administration, Directorate of Public Roads	Directorate	Ministry of Transport and Communications	1	41:40

Even though interviewees and organizations were not selected at random, every effort was made from the researchers' side to select and interview managers in organizations that represent a variety of sectors, size, responsibility and function. Because the organizations were strategically selected, it was possible to pick informants and organizations that were relevant and connected through the ownership structure and sector of activity. It can therefore be argued that the case organizations included in this study are of a high quality and relevance to the topic of investigation.

3.1.3 DATA SOURCES

This paper's database consists of several data sources: The first, and primary source is the qualitative data collected through interviews with informants in Norwegian public sector organizations. The second source is archival data, such as reports and the organizations web pages. The third source for data are observations of the informants made by the researchers during the interviews.

The length of the interviews varied from 31 minutes to 1 hour and 25 minutes. On average the interview duration was 55 minutes. In total, the interviews lasted 12 hours and 46 minutes. The length, or difference in length, between the interviews did not result in great variance in the quality of the data collected. During the shortest interview, the informant was guided to keep on the topics of the interview guide to a greater extent than during the longest interview. The limited time that was given for the shortest interview did, however, not affect the quality of the interview in our opinion. The topics were discussed in a similar fashion as with the informants with longer interviews, but with fewer digressions.

All of the interviews were recorded on permission from the informants. The recordings of the interviews were later transcribed. The amount of transcribed interview data totaled 132 pages of single spaced writing. The interviews were conducted in Norwegian, and the quotes are translated to English by the authors.

As a measure to motivate the informants to speak freely and not hold back on information during the interviews, they were promised anonymity in our study, as suggested by Yin (2009). The informants were also promised that the data was to be treated with confidentiality. This involves that some of the citations used have been modified in order to ensure the confidentiality of the informants. These modifications include not disclosing the informants' origin, and removal of information that could reveal the organization or identity of the informant(s).

3.1.4 DATA ANALYSIS

The researchers analyzed the data collected for this study individually. Prior to the analysis, a uniform matrix framework was created. This framework contained categories by which the data was analyzed after. Each of the 14 case organizations was analyzed as separate stand-alone cases within the framework. This method allows for confirmation or dismissal of findings and patterns detected in the data, as it permits conclusions to be drawn on a cross-case basis (Yin, 2009). Based on the framework, it was possible to conduct both within- and cross-case analysis from the data.

Following the independent analysis, the findings and impressions were compared between the two researchers. This approach strengthens the findings, as potential investigator biases would be limited (Yin, 2009). Furthermore, the replication logic from the analysis of the data was strengthened. This data analysis process was both time and resource demanding, but necessary to perform the best possible analysis of the collected data.

Lastly, all informants quoted in this paper were contacted and given the option to control the statements from the interviews. This was done to reduce the chance of misinterpretations from the data, and to ensure that the informants' opinions were correctly communicated.

3.2 LIMITATIONS TO THE RESEARCH DESIGN AND METHOD

Before the findings and discussions from this research are presented, it is necessary to evaluate some potential limitation of the chosen research design. Despite the researchers' best efforts to reduce these, it is necessary to explore the potential weaknesses for this study.

There could be a chance of investigator bias in the analysis of the data as both researchers were involved in the whole data collection process. Several measures were taken to reduce the potential risk of this. An example of such a measure was the individual data analysis. The analysis of the data was performed individually and both researchers detected the main findings in this paper independently, thus, the chance for bias is significantly reduced. The dual authorship further allowed for extensive discussions and evaluation of the findings, which would reduce the risk of misinterpretation and misconceptions regarding the findings. We have further explored several rival explanations and theories from scholars, in an attempt to reduce the risk of bias in this paper.

Another potential limiting aspect of the methodology for this study could be the selected informants. Upon initial contact with the different organizations, a standard e-mail was sent to a potential contact identified by the researchers. For some of the organizations contacted, the informants that was selected or contacted was not the correct person. This resulted in a forward referral to another informant within the organization. Furthermore, with few informants in each organization the informants could have provided misleading information that does not reflect the actual situation in the organization. In order to reduce this risk, we have attempted to detect patterns across multiple organizations.

4. FINDINGS

The following section will present the main findings from the empirical study. Based on our analysis, there are indications on several differences between the levels of administration in the bureaucracy. The most obvious finding observed during the analysis of the data, is the apparent influence the interaction and environmental context in which the organization operates has on public managers. The data illustrates that organizations that operates in, or with, industry sectors, will be more pro-innovative. Furthermore, the managers at agency level showed more innovative abilities compared to their ministerial level counterparts. Further description of these findings will be presented in this section. First, the findings from the ministerial level managers will be introduced and illustrated, before the findings from the agency level managers will be explored. In section 5, the discussions will explore and evaluate the similarities, differences and possible implications the findings from this study could have.

4.1 MINISTERIAL LEVEL

All informants at the ministerial level emphasized that innovation would play a key role for the public sector, and the organizations within it, when faced with the challenges of the future. The data analysis shows that among the ministerial level managers, the orientation of the organization was heavily influenced by the organization's responsibility and day-to-day activities. The description of day-to-day activities and work was surprisingly uniform among the ministerial managers. The descriptions revolved heavily around the

development, work, and formulation of policy for their sector of responsibility. The development of new policy was identified and categorized by most as an innovative activity.

Furthermore, the effect and influence the work routines and responsibility had on the organization was apparent to many of the ministerial managers. The day-to-day operations and activities of the organizations were explained, and perceived, as an influence to adopt certain characteristics from the sector, and the environmental context the organization operated in. This finding can be illustrated through the following quote:

"Well, at least for this unit's part, because you work with formulating innovation policy, you have a duty to practice what you preach, at least to some extent"

- Informant at Ministry of Trade, Industry and Fisheries

An interesting finding was that the link between the organization's environmental context, and innovative orientation, was not exclusively noticed by the managers within the organization. Managers in other organizations proposed that other organizations' work routine, and day-to-day activities, would influence those organizations to be more innovative compared to others. Thus, from a managerial perspective, the environmental context of other public bodies was an identified factor and determinant for the organization's ability and willingness to change and innovate. This can be exemplified through this statement:

"They [the Ministry of Trade, Industry and Fisheries] have that as their field, so they are probably more open to the type of solutions than what we are here"

- Informant at Ministry of Labor and Social Affairs

The quote illustrates how the informant at the Ministry of Labor and Social Affairs do not perceive his or her own organization as equally innovative as another ministry. Based on their natural responsibility and field of work, the Ministry of Trade, Industry, and Fisheries is depicted as more innovatively constructed and proposed to be more willing to change. It was clear among the ministerial level managers that the organizations' natural environment and day-to-day activities were identified and should be considered an important factor and determinant for public organizations.

An interesting theme that occurred within the different cases was the description of the culture within the organization. Those managers that identified and described their organization as innovative tended to give a more positive description of the culture. The Minister's sector of responsibility was promoted as an important influence for the creation of an identity among the ministerial employees. The next quote illustrates this finding.

"We are an industry department and that affects our perception of ourselves"

- Informant in Ministry of Petroleum and Energy

The data also uncovered other potential channels for influence among the ministerial level managers. The motivations to initiate and engage in innovative activity among the managers were another interesting finding, as these varied among the managers. The traditional top-down approach to innovation was the natural process for these projects. Several ministerial level managers explained the motivation to innovate as coming from the top, notably from the Ministers or other politicians. The purpose for engaging in innovative activity

for the ministerial managers were thus described as an activity conducted in order to please and serve the desires and priorities set on the agenda by those higher up in the hierarchy.

"The Minister and the Secretary General, and how they communicate, what they are concerned with, is very important for what happens down in the organization.

[...]

"If you have a Minister that is active and says that he wants good suggestions, it comes. That is a very powerful driver. The culture here is very oriented towards providing the politicians with what they want, and that their priorities are promoted. When the politicians says or prioritizes something, then the whole Ministry works in accordance with those priorities."

- Informant in Ministry of Education and Research

The focus on higher-level authority among the ministerial managers was further identified as a strong influence on the organizations culture and attitude towards risk. The following example is a manager's perception on how the organization's responsibility affects the organizational culture;

"Somewhat cautious. We work with new development and such, but we are probably affected by that we have a great responsibility. As I mentioned, there is a certain culture for caution to not embarrass the Minister, and you want to do your work in such a fashion so he is on somewhat safe ground"

- Informant in Ministry of Education and Research

As the informant describes, the culture of low tolerance for failure and risk taking is attributed to the hierarchical structure with authority on the top, as well as the significant responsibility the organization bears. This heavy responsibility was further argued as the reason for the low experimentation and need for a solid foundation of knowledge on which to base decisions at the ministerial level. A solid knowledge base was a prerequisite for decision making, due to the possibility of great consequences and implications for large parts of the population.

The next section will present the findings from the interviews with agency level managers. Similar to the ministerial level managers, the findings were somewhat consistent between the informants on the different topics. Following the presentation of the agency level findings, the focus will be drawn towards differences and similarities between the two levels in relation to the environmental context's influence on the organizations' innovative abilities.

4.2 AGENCY LEVEL

The agency level managers largely agreed to, or gave a description of, that the environmental context they operated in had some influence on the organization's innovative abilities. The routines and day-to-day activities were also identified and found to have an influence on the organizations' innovation activities.

Similar to the ministerial level managers, the environmental context of public organizations, and the influence on the organization, was understood or thought by the agency level managers.

"I have worked with various Ministries, and the Ministry of Petroleum and Energy is extremely more innovative and willing to change than for example the Ministry of Climate and Environment and the Ministry for Transportation and Communication"

-Informant at SIVA

This understanding was further demonstrated to extend beyond the agency-to-agency organizational comparison, to between the two levels, that is, agency-to-ministry level. The dynamics was further demonstrated as several managers at agency level stressed that they pursued a view beyond the silos of their own organization and sector, and to cross-sectorial learning and collaboration.

Closely related to the influence the sectorial environment had on innovation in the organization, was the influence from the objectives and the core mission of the organization. The organizations with a clearly defined core mission, or objective, gave indications to be more willing to change and innovate in accordance with their environment. For these managers the clear objectives contributed to their own perception of the organization, and thus the culture within it.

"If we manage 2 to 3 billion [NOK] a year which is intended to reduce risk in the market and provide support to businesses who dares to go in front, then that has to reflect our own organization. So, if we talk about market development, we must respond in the same way, so that our values and culture is in the same half"

- Informant in Enova

The agency level informants were clear and showed understanding of their responsibility, as leaders, for the creation of the conditions fostering innovation in the organization.

"[...] My task as the head of the organization is that it [innovativeness] characterizes us internally as well. You cannot be in customer interaction with a set of values and come home with another one, that's my opinion. You have to 'walk the talk'"

- Informant at agency level organization

The organization's objective and core mission is emphasized as a key component in the explanation for the organization's pro-innovative attitudes. Second, this indicates that the manager's awareness of development and change in the organization's environment determines that the organization itself must change accordingly, in order to pursue it's objective and reach the goals. The informant in the Norwegian State Educational Loan Fund gave a similar response to where they seek inspiration and go about the development of their work:

"[We seek inspiration] with the customer and others, not only public organizations but also private. [...] It has something to do with whom we are for, and how do we work with them? We want to focus on the 12 year olds, that's what we want. We want to understand how they want to interact with us when they turn 16, and become a customer. We are also paying attention to the development in the banking industry, which is also far ahead, particularly related to youths, so we follow closely their product development. We have similar services, even though we manage the rights stipulated by Stortinget"

- Informant in the Norwegian State Educational Loan Fund

Here it is obvious that the organizations' societal objective and mission affects and pushes for interaction with future customers. The informant reported the future vision, as being the most modern public agency, and purpose of the organization as important to how they purposefully worked towards a user-oriented development of the organization's services. Through regular contact with the users and customers, the

organization was developing solutions and services that would be understood and perceived as familiar to use by the society.

The informant in the Directorate of Public Roads gave an example of how front-line staff had initiated an innovation that was implemented. It could be argued that because these organizations have experienced the potential benefit and source for innovation, all employees in the organization could be, and therefore was, more willing to find a solution to capture these ideas.

The two previous sections have presented the findings from both ministerial and agency level. The next section will draw some differences and similarities in the findings from the two levels of the Norwegian public sector. While there are several similarities in the influence the environmental context has on the organization regarding innovation, there were some interesting differences between the levels.

5. DISCUSSIONS

The previous section explained the findings from this empirical study on Norwegian managers and public sector innovation. The following section will discuss these findings and explore different explanations to them. As the findings illustrated, the organization's environmental context was identified as a key factor to the organization's innovative abilities in various ways.

The following section will discuss the findings from both ministerial and agency level in light of the existing theories and empirical findings. The discussion will further provide insights into possible and rivaling explanations to the complex phenomenon of public sector innovation, and how the environmental context of public organizations can affect this process. Afterwards some suggestions for further research will be presented in section 6. Lastly, the conclusions from this paper will be drawn in section 7.

5.1 THE ENVIRONMENTAL CONTEXT'S INFLUENCE

The findings from this research provide support for the proposed influence from the environmental context in which the public organizations operate. Both the data from ministerial and agency level supports this proposition. When comparing the findings between the two levels of government, there are some emerging patterns.

The reported influence was especially expressed among the organizations oriented in, or to, industry sectors. Interestingly, the degree to which the environmental context of the organization influenced the organization was evident to be stronger at the agency level of the organization, compared to the ministerial level. Several of the informants predicted other organizations to display greater innovative abilities due to the field of work and the environmental context in which they operated, and the findings supports these predictions. These predictions and experiences were also directed towards organizations in close proximity to, or in, industrial sectors.

When analyzing the findings further, it is possible to see that there are considerable differences between ministerial and agency level. The general theme among the managers, both at agency and ministerial level, is that the organizations strive towards practicing what you preach. However, upon comparison, it can be

discovered in the data that agency managers expressed a higher influence from external factors on their organization, compared to their ministerial level counterparts. The awareness and understanding of this effect was clearly more apparent among managers at the agency level. The agency level managers showed a greater understanding of how it affects the organization, as well as how they as managers used this influence to develop the organization further in a pro-innovative direction. The approach by the ministerial level is more characterized as a passive attitude, where the influence is perceived as something positive, but not utilized in the same fashion as among the agency level managers. Research has shown that organizations that actively engage with the environment is more successful in innovating (Meyers and Goes, 1988). As Eggers and Singh (2009) argue, the ability to innovate is the ability to adapt to an altered environment, to learn, and to evolve. The findings in this study further support this proposition.

A simple explanation to this finding could be that the managers react to the changing environments within their area of operations and responsibility. This involves initiating innovation and change according to the development of the surroundings. Thus, this finding could be interpreted as support for the arguments proposed by several scholars on the importance of the environment as a source for innovation (Goes and Park, 1997; Damanpour and Schneider, 2006; Berry, 1994; Olsen 2004).

However, a potential issue regarding this perceived and theorized influence the environmental context has on the organization, is that it can be used as an excuse by managers in public organizations in which the innovative performance is insufficient. Innovation, and building a culture that is supportive of change and creativity, is a managerial responsibility (Meld.St. 7., (2008-2009); Damanpour and Schneider, 2009; Bland et al., 2010). By pointing to the lack of influence from the organization's environment, these managers can attempt to scapegoat the issue of poor innovative performance by the organization, despite the responsibility of creating the conditions for it remaining theirs.

Another explanation, which should be considered closely related to the influence from the environment, is that the organizations are naturally affected by their day-to-day operations, which colors their perception of the organization and themselves. The notion of 'practice what you preach' is on the ministerial level more closely related to the sector of policy development, compared to the agency level organizations, that to a greater extent have frequent interactions with end-user and external actors in their daily routines. Those ministerial level managers oriented towards industry sectors were more concerned with reflecting the sectors' and other organizations' within its values and innovative activities. This can also be considered a premise for a public sector administration, as it develops policy and regulations that affects businesses, actors, and citizens. To efficiently regulate and create conditions for economic growth, these organizations must monitor and understand how the sector of their responsibility develops. This explanation fits with the sectorial system for innovation, as well as the task-related perspective.

The positive impact the link to an industry sector had on innovative abilities in the organizations strongly supports the perspective of each sector having individual patterns for innovation (Godø, 2008; Malerba, 2005). Similarly, it can be seen that the type of tasks the organization performs affects the innovative abilities of the organization (Lægreid et al., 2011). Those organizations working with innovation or industry policy, described themselves as influenced by their tasks, as well as by the sector they covered. These factors colored their perception of themselves, as they were described as technological organizations, rather than administrative.

A possible explanation to the clearly divided lines between the levels of government, with relation to their innovative attitudes, as illustrated and discussed above, could lay in the natural context of their organization.

The ministerial level managers described and characterized their responsibility and work in a more strategic and guiding matter, compared to the agency managers. While the ministerial informants expressed their profession as revolving around the interpretation, design, and formulation of policies, the agency level managers described their responsibility and work in the agency to be of a more varied and executive nature. The civil servants employed at ministerial level are heavily involved in the development, work, and formulation of policy. Koch and Hauknes (2005) argue that both the politicians and civil servants at the ministerial level should be considered policy makers. The ministerial managers are concerned with developing new policies on a macro level, normally initiated by higher-level officials or politicians. The agency managers, on the other hand, are in contact and interacting with other public and private bodies in a more market-like environment. This is because their work is considered more oriented towards serving and interacting with the actors in their environment. Additionally, the ministerial role in the innovation process can be described as at the early phase in idea generation, while the agency level managers described their work in a fashion that fits better with the implementation and execution phase of the innovation process.

This strong influence can be interpreted as both positive and negative; while it is positive that the organization develops according to the sector of responsibility, it is important to evaluate the aspects of accountability and stability these influences can have on the organization. This strong influence from external organizations can also be perceived as a potential threat to the central values of the public sector (Walker et. al., 2011).

While it is clear that the organizations' natural environment and day-to-day activities was identified, and should be considered an important factor and determinant for public organizations, the data also uncovered other channels for influence among the ministerial level managers. When evaluating the findings from this study, it could be proposed that there is a difference between whom these managers primarily view as beneficiary of the innovations and improvements. The agency managers promoted the notion of citizens or society as their target receiver. This is opposed to the managers at ministerial level, who frequently gave the description of the politicians, Secretary General, or the Minister of the Ministry, as the primary beneficiary.

The overall impression of the agency level managers could be considered as more oriented towards bottom-up and collaboration with external actors. On the other hand, the managers in the organizations at ministerial level were more oriented towards top-down processes. This finding could therefore be considered as a supportive argument for the proposed explanation that close organizational interaction with other bodies in the organizational environment improves innovative abilities. An interesting point when evaluating the process of innovating through top-down initiatives is that the customer is the higher political actors, and not the citizens these orders serve (Pott and Kastelle, 2010). The increased market orientation among the agency level managers indicates that the public organizations increasingly develop and approach innovation with behavior closely resembling the private sector (Walker et. al., 2011). This development should, however, not be considered exclusively positive, as the market orientation for public organization can result in implications and consequences, such as poor accountability mechanisms and devaluation of public sector values (Walker et. al., 2011).

An interesting aspect of the findings presented above, is the contagious effect the sectorial environmental context has on the culture within the organization. Not surprisingly, those organizations and managers that gave the impression of being less innovative, also described their organizational culture as less willing to change, less creative, and gave an overall description as less innovative. Differences in administrative cultures can have significant effect on the organization (Maroto and Rubalcaba, 2008).

The fear of embarrassing the political leadership through actions and activities was a recurring issue for the managers at the ministerial level. The internal culture was by most managers at the ministerial level described as conservative. This can have severe negative impacts on the organization's innovative abilities, as the openness to innovation and change is very important, especially in the early phases (Fagerberg, 2005). The simple explanation for this is that innovation involves a new combination of ideas, resources, capabilities, skills etc. Thus, an increased presence of these factors will thus increase the innovative capabilities of the organization (Fagerberg, 2005). Based on this theoretical insight, it is apparent that this effect can be regarded as a negative influence on the organizations innovative ability. The following statement illustrates this;

"Innovation was definitely on the agenda in the beginning, but has partly been taken down by the organization. My department was very aggressive at first, and then we had to do a reality check when considering the rest of the organization. This included everything from office solutions to technology and teaching methods. So we are probably somewhat more long-term and gradual compared to what we did in the beginning, when we were fairly aggressive, and we met quite considerable resistance to innovation [in the organization]".

- Informant at Ministry of Labor and Social Affairs

When considering the conditions described by the ministerial managers regarding the motivation originating from a desire to meet the priorities set by politicians, and the culture dominated by avoiding embarrassing the Minister of the organization, an explanation can be proposed. The risk of initiating innovative activities that originates from lower down in the system could be perceived as a potential source for failure. Thus, by avoiding these potential risks, the managers will stay clear of scrutiny. Similarly, the initiatives from the top can be considered as motivation, as the primary beneficiary for innovating among these managers initiate the process. The notion is that an idea originating from lower down in the hierarchy is considered a risk for failure, while if it came from the top it is motivation. This argument is supported by Arundel and Huber (2013). This finding in the difference in the principal-agent relationship among managers at ministerial and agency level should be considered in close relation with the environmental context, as the agency level managers expressed a higher level of interaction with external actors, compared to ministerial level managers. Thus, the input and influence from these bodies must be considered a factor in this finding.

This does, however, not mean that the organizations at agency level were not influenced by top-down initiatives in their pursuit of innovation. An interesting perspective on the different approaches and orientations were found in the case for the Norwegian State Educational Loan Fund. The orders to modernize and innovate came from the political authorities, due to poor performance, but the development and implementation of the innovation was conducted through a process with close collaboration and influence from the bottom, namely the intended user. The innovation process was further communicated through the organization and beyond its borders through a new vision of being the most modern public organization in Norway. This example illustrates that the organization, and the management, clearly takes the innovation process seriously, and prioritizes it through several measures, which in turn positively contributes to the innovative abilities of the organization.

When discussing this topic, it is important to examine other explanations. One of these possible explanations for the difference in organizational abilities could lay in the personality and characteristics of the managers in the organizations. The personal characteristics should not be underestimated when assessing organizations' innovative abilities, as the study by Damanpour and Schneider (2009) supports. The personal characteristics of the managers play a key role in the creation of a pro-innovative organization. During the interviews, the managers in the organizations identified in this paper as innovative showed in many instances a much greater

enthusiasm discussing the topics. Furthermore, they tended to focus more on the positive aspects and the possibilities within the sector and organization, compared to those who admitted to being, and were identified as less innovative. Such an example can be illustrated in the quote below. During the interview, the informant showed great interest in the discussions and used his body language vigorously.

"It is very exciting, you see, it is a lot of fun! We are 70 people, who are filled to the brim with knowledge, and to experience them on the offensive and creative side, that is fun! It creates emotions, and emotions create innovation. So I believe the driving forces for innovation is the assurance, the positive and the optimism. Of course, you get creative when you are at the edge of a cliff and have to save your life, a situation of fear can also bring out creativity, but I believe that the lasting innovative culture is build on the positive.

[...]

And that hunger, the hunger is important. And that is attached to the [organizational] objective!"

- Informant in Enova

This example illustrates that positive attitudes and the values expressed by the manager support the creation of an innovative organization. Thus, the findings from this research provide support for the proposition of managerial characteristics as an influence, and there is consistency in the findings.

Another example supporting this proposition regarding the importance of the personal characteristics of managers can be found in the following quote. When answering a follow-up question regarding the development of the pro-innovative culture within the organization, it became apparent that the culture has evolved and not been so constantly.

"I was a bit surprised about the unwillingness to change here when I first started, especially considering the work they did. So people are quick to enter the trenches. [...] I don't think people here are any more innovative or willing to change than other places, but because we work with this [innovation] all the time we are more exposed to those types of things compared to others. So there is more knowledge about it and they [the employees] see that it is this we are working with"

- Informant in SIVA

Based on this, the role and responsibility of the manager in the creation of conditions and an innovative culture becomes apparent. Rather than the environmental context's influence as the sole explanation for innovative attitudes and orientation, the role of managers is revived. Additionally, this indicates that the managers themselves do not necessarily understand their role and influence on the culture. The role of the leader should therefore not be underestimated. The managers and leaders of organizations generate a state of innovation through their passion about the outcomes, the goals and ambitions, not to mention the aspirations, they exhibit for the organization (Albury, 2011). This passion and drive was most evident among the managers at agency level, which can explain the more positive description and attitude towards innovation, and an innovative culture among these managers' organizations.

When summarizing the discussion of the findings, the following quote from an agency level informant fits well. First, it highlights the main similarity between the two levels, in that the environmental context of which they operate in affects the organization's innovative abilities and attitudes. Second, it emphasizes the main difference between the two levels; the motivation and perceived beneficiary for innovation. While the agency level managers showed a greater interest and motivation towards end-users and the organizations within their

area of operations, the ministerial level managers tended to be more focused on pleasing and serving the top authority of the public hierarchy.

"If one reflects on innovation, you are dependent on getting influences from others and stand in a constant relation to others and the environment. And the administration has always done it, but I believe that something has happened over time [...] It has been expected by users and citizens to be more open."

- Informant in the Agency for Public Management and eGovernment

6. SUGGESTIONS FOR FURTHER RESEARCH

When considering the discussion presented in the previous section, the findings from this study can have some implications for the field of research. The following section will draw some suggestions for areas for further research, in order to further confirm or dismiss the findings from this paper.

First, the topic explored in this paper, namely the influence of the environment of public organizations on their innovative abilities, should be explored further. Despite the attention it has received from a private sector perspective, the literature from the field of public sector innovation is close to non-existent (Boyne, 2002). Furthermore, the qualitative nature of this study has some limitation to generalizability and evaluation of links between various factors. A natural suggestion for further research would therefore be a larger scale quantitative study studying the links and relationships between the various factors identified in this study.

Second, from an innovation research perspective, the further research into how and why other factors, such as the sectorial environment, influence the innovation process in the public sector would represent a new path diverging away from the *homo economicus* path that currently dominates the research field (Godø, 2008). The acknowledgement of non-economic factors influencing and affecting the innovation process is important in order to create more comprehensive and fruitful innovation theory for the public sector.

Third, further research is suggested to be concerned around the topic of political dynamics in the innovation process of the public sector. This research suggestion is also supported by Godø (2008).

Lastly, based on the conclusions in this paper, a recommendation for further research should be to include a human relations perspective to the field. Based on the findings from this study, the characteristics of the manager, especially on seeing beyond the organizations' borders and using the environment when innovating, as well as in the creation of conditions fostering innovation within the organization, has been indicated to have an affect on the organization's innovative abilities. Further studies into these topics would therefore be suggested.

7. CONCLUSIONS

Over the last decades, the field of public sector innovation has received more attention from scholars, experts, media, and last but not least governments. Innovation in the public sector is crucial in order to maintain the high levels of welfare services the public sector provides, and for the public sector to be able to address the economic and societal challenges it face (Bloch & Bugge, 2013).

The relationship between the public sector to citizens, or private companies, is important for innovation, as these can be sources for innovation and ideas. From one perspective they exist outside the public sector scope, but at the same time they experience the effects of new policies and services directly (Alves, 2013). This paper aimed at exploring how the environmental context in which the public organizations at two levels of the Norwegian government affects their innovative abilities. The research questions this paper aimed at answering was

"How does the environmental context in which ministers and agencies operate in influence their innovative attitudes/abilities, and is there a difference between the two levels of government?

The research design chosen for the study was a inductive multiple case, based on a dataset consisting of 14 in-depth interviews with 19 informants on managerial level in public organizations at ministerial and agency levels.

The findings from this research provide support for the proposed influence from the environmental context, in which the public organizations operate, on the public organization. Both the data from ministerial and agency level supports this argument. Interestingly, the degree to which the environmental context of the organization influenced the organization was evident to be stronger at the agency level of the organization, compared to the ministerial level. The reported influence was especially expressed among the organizations oriented in, or to, industry sectors. This finding can partially be explained through the sectorial system of innovation, and the task related perspective. Based on these findings, the notion proposed in the early research by Meyer and Rowan (1977: 347) '*Organizations both deal with their environments at their boundaries and imitate environmental elements in their structures*' also seems applicable to public sector organizations. Hence, the organization's ability to innovate is closely connected to the ability to adapt to an altered environment.

When considering how this reported influence affects the organizations abilities to innovate, the findings identified several potential factors. First, interaction with other organizations, sectors or users/citizens does influence the organizations innovative abilities, as organizations look to develop according to the environments they operate in. The evidence from this study further suggests that managers at public agencies show more permeability to the organizations' environmental context, compared to managers at ministerial level. Second, the core tasks and objective of the organization strongly influences the manager's innovative perception of the organization. These must be seen closely connected with the degree of interaction and involvement of external actors.

However, innovation must be considered, and treated, as a complex phenomenon. Single factor explanations for describing the process of innovation in the public sector should therefore be avoided (Lægreid et al., 2011). Other factors, such as; the complexity of the innovation, sectorial structure, difference in responsibility, and the personal characteristics of managers and employees, must be taken into consideration when studying public sector innovation. Therefore, as the findings from this study indicate, future research should further study the effects of the context, tasks, and responsibilities of public organizations, in relation to innovation and the innovation process.

The field of research has grown with the years, yet there is a dearth of knowledge for explaining the complex process of public sector innovation. The findings from this paper, and the conclusions drawn here, should be considered as a contribution to this growing field of research. However, as this paper has illustrated, further research is strongly recommended, in order to increase the understanding and knowledge of public sector innovation.

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