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BODØ GRADUATE SCHOOL OF BUSINESS

MASTER THESIS

The dilemma between management control and innovation:

A case study of Kunnskapsparken Nord AS

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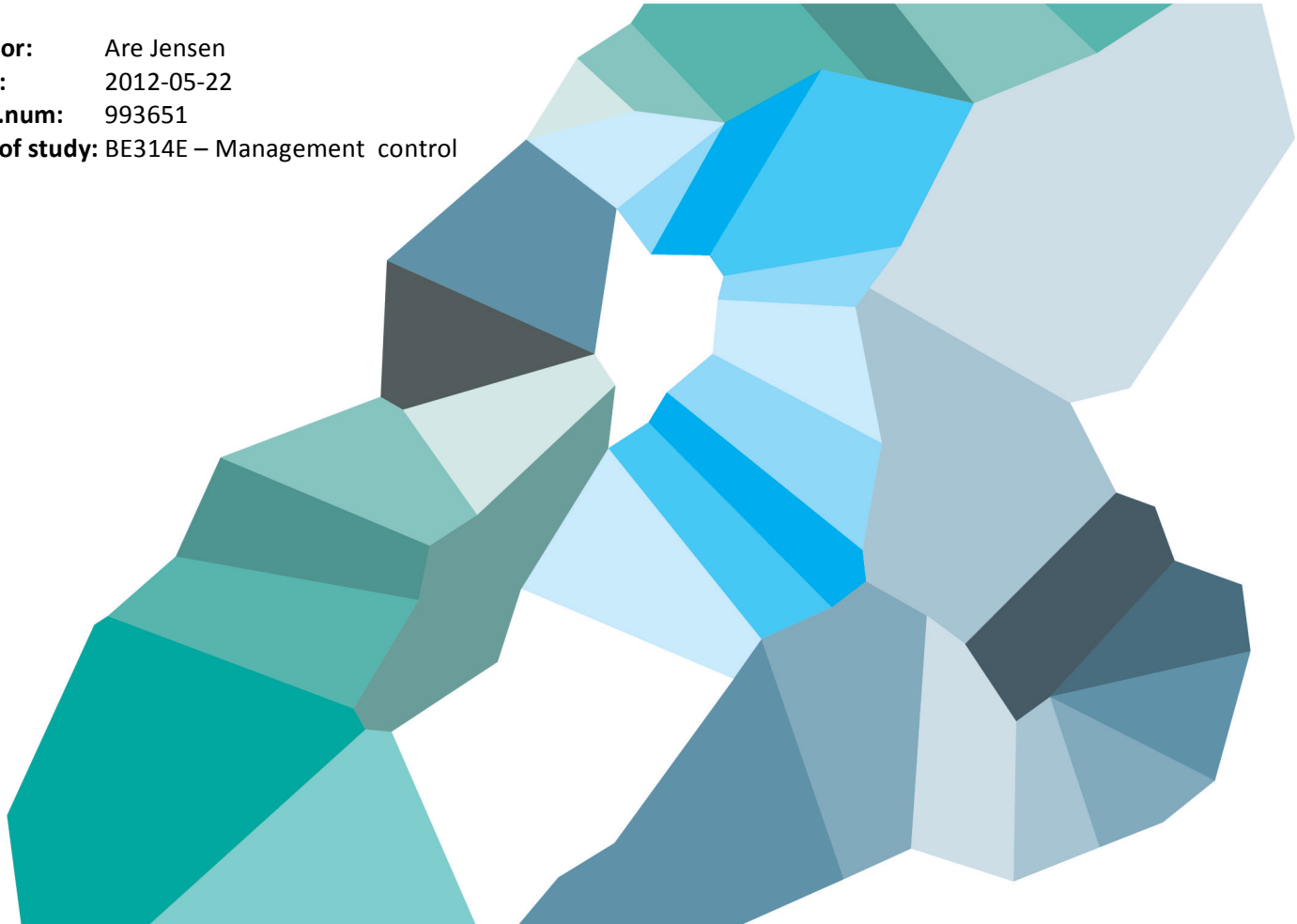

Abstract

The purpose of this research is to explore the role of management control in an innovation context. Studying a business incubator, its two largest owners, and two entrepreneurial firms connected to the incubator, I find that the role of management control differs for the actors involved. Data was collected through an introductory document study and interviews. I found that outcome based controls are not utilized due to the negative perceived effects this form of control can have on development work. Behavioural control on the other hand is extensively used. When dilemmas between control and the development of innovations occur in the incubator, trust acts as a mediating factor creating an "outer room of action" in which renegotiations of the aims of the controls take place. Two mobilization effects in the two entrepreneurial firms connected to the incubator are also observed and analysed. Their difference in age, size and stage of development seems to influence how management control is used both for coordination but also for improving the innovation process.

My research has implications for the research on management control's role in development work, as well as for businesses wanting to enter into relationships with entrepreneurial firms.

Preface

Having been granted a PhD scholarship at Bodø Graduate School of Business starting this summer (2012), I am using this thesis as a springboard for further research on the topic of management control's effects on innovation work. Due to this, my work is explorative and descriptive in nature.

I would like to thank my supervisors, **Professor Frode Mellemvik** and **Associate Professor Andrei Mineev** for always being in good cheer and filled with constructive criticism. Without them this work would not have been possible.

In addition I would like to thank my colleague **Tommy Høyvarde Clausen** at the Nordland Research Institute for making his contact network in SIVA available to me, as well as giving me support through my PhD application process. **Einar Rasmussen** at the Bodø Graduate School of Business also deserves acknowledgement for taking the risk of brining me into his research projects while I was a neophyte at the social sciences. His backing has given me a firm foundation for my future career in management research.

Last but not least, I would like to thank **Associate Professor Odd-Birger Hansen** at Harstad University College for taking me under his wings when I was studying for my bachelor's degree. Odd-Birger's role as a mentor both through my bachelor's degree and master's degree has made it possible for me to realize the career I have always longed for. His pragmatic view of the world has brought me focus when I needed it the most.

Thank you!

Sammendrag på norsk

Grunnlaget for denne oppgaven er å utforske rollen økonomistyring har i en innovasjons-kontekst. Studiet tar for seg en forretnings-inkubator, dens to største eiere og to entreprenører tilknyttet inkubatoren. I oppgaven finner jeg at rollen til økonomistyring varierer for de ulike aktørene. Data ble innsamlet gjennom én innledende dokumentstudie og intervjuer. Resultatbaserte kontrollformer er ikke benyttet da de blir oppfattet som bærere av negative effekter for innovasjonsarbeidet. Handlingskontroll er dog i utstrakt bruk. Når dilemma mellom kontroll og utviklingsarbeid oppstår i inkubatoren er tillit mellom aktørene en formidlende faktor som skaper ett «ytre rom for handling» hvor reforhandlinger av målene til kontrollene finner sted. To mobiliseringseffekter i de to entreprenørseselskapene ble også observert og analysert. Det virker som om forskjellen i alder, størrelse og stadie av utvikling påvirket hvordan økonomistyring var brukt både for koordinasjon, men også for å forbedre utviklingsprosessene.

Forskningen min har implikasjoner for forskning på økonomistyringens rolle i utviklingsarbeid, samt for næringslivsaktører som ønsker å starte forhold med entreprenørselskap.

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1 Introduction to the thesis

Management control (MC) is by many considered an important factor in determining the performance and success of organizations (e.g., *(Merchant and Van der Stede 2007; Simons 1990; Ouchi 1980)* to name a few.) While some may have the erroneous conception that management control is merely a set of tools, it is also a social and institutional practice which helps mediate the reality organizations are facing *(Hopwood and Miller 1994)*. This bird's-eye view of the organization, its context and activities helps managers understand the whole reality that the organization is facing, as it can both give insights into individual management areas (e.g., marketing or financial risk) but also reduce uncertainty and help managers make rational decisions.

MC has suffered an increase in complexity, and a contributing factor to this phenomenon is the heightened focus on inter-organizational settings. Three major issues arising in this context are tied to organizations having to guard their resources, access resources of others, and be able to coordinate both individual and joint value creation. This extends the strategic boundaries of the firms in the relationships *(Mouritsen and Thrane 2006)*, making working under these circumstances difficult. In addition management control can produce uncertainty among the actors because of differing interpretations of e.g., accounting data *(Mouritsen 2005; Mouritsen and Thrane 2006)*. While this is the case, there are of course numerous advantages in joining forces. One example of this can be in innovation work, where one can draw upon each other's competencies in order to create new, or improve upon existing, products, services or processes.

During the last two decades inter-organizational relationships and exchanges have intensified, and organizations appear to have become more conscious about managing these cooperations and exchanges *(Håkansson and Lind 2006)*. Subsequently more management control mechanisms have been documented in the growing amount of literature. While there seems to be an agreement about MC as an important factor for organizations' business both in intra-organizational and inter-organizational settings, there seems to be conflicting understanding on how management control can affect the process and level of innovation in organizations *(Bisbe and Otley 2004)*. Mouritsen et al. *(2009)* found that management accounting can frame innovations and innovation work, as its calculations translate the innovations into consequences for the firm and its relations with the outside world. This entails that management accounting, and presumably management control, affects the level of innovation

in organizations. While Mouritsen et al.'s *(2009)* findings are interesting their article is one of very few exploring this topic. This is worrying because staying innovative and being able to adapt in a world that is changing more and more rapidly can be critical for the survival and fitness of an organization. MC with its broad set of tools and perspectives for managing both strategic and operational concerns seems to be an ideal way of ensuring that innovation efforts are properly managed.

In my thesis I will discuss what roles management control mechanisms play in inter-organizational relationships surrounding a business incubator focusing on industry related business incubation. These organizations are one of the most well-known vehicles for stimulating the establishment of new companies as well as overcoming market failures in various other ways *(Hackett and Dilts 2004)*. The innovation work that takes place due to, and in many cases in conjunction with, the incubator is subject to several of these mechanisms on three different levels: (1) the owners towards the business incubator (henceforth KUPA), (2) KUPA towards its owners and incubatees, and finally (3) the incubatees towards KUPA. These levels are illustrated on page *32* and discussed on page *33* onwards. This distinction will also become clear in the empirics and analysis chapter.

My frame of reference is a combination of two frameworks which support each other's weaker points. To study the context of the business incubator I used Dekker's *(2004)* framework of inter-organizational control. According to him (among many others) there is both a formal and informal side to management control, and the decisions determining what kind of controls used are highly dependent on the context and on the trust between the different actors. A useful feature of Dekker's *(2004)* framework is that it offers a combination of transaction cost economics and organizational theory in studying inter-organizational controls, giving me a basis for both discussing the reasons for the controls but also their usage for coordination. In addition to Dekker's framework, I have also used Mouritsen's *(2005)* design and mobilization theory in order to discuss some of the ways in which the mechanisms were used. This was valuable as it adds the humans and their actions into the understanding of management control. Mobilization by managers creates potential dilemmas for organizations, and when these are addressed there is the possibility for change.

In the next section I will present the context of business incubation:

1.1 The context of business incubators

As the inter-organizational relationships in my study are centred on a business incubator and incubation as a concept, I am going to briefly present the phenomenon of business incubation as well as give a short introduction to its history both internationally and in Norway.

Business incubation as a phenomenon first occurred in New York in 1959, when a local real estate developer started renting out parts of a large, vacant, collection of buildings left by a considerable organization exiting the area. Some of the new tenants requested the real estate developer's help with business questions, building networks and with raising capital. Thus the first business incubator was born *(Hackett and Dilts 2004)*. Incubation has seen both rises and falls in popularity, both as a political tool, but also a vehicle for creating profits *(Hackett and Dilts 2004)*.

In Norway business incubation is a much younger phenomenon; only in the year 2000 was incubation adopted as a tool to stimulate innovation and act as an instrument for enacting rural and regional policies[1]. While there are many form of business incubation, at least according to the Norwegian model, I focus on an *industry incubator* in my study.

The industry incubator responsible for the incubation process is owned by a large industry related company, or a conglomerate of them. This, or these, companies are called "the mother organization" of the incubation process. While they are the largest owner of the industry incubators, the government through SIVA [2] and the local counties, as well as other investors have substantial ownership in them as well. This complex ownership structure can make the objectives and goals of the incubator unclear *(Clausen et al. 2011)*.

The incubation process itself goes through three steps: (1) *evaluation of incubatee*, (2) *acceptance (or denial) of application*, (3) *incubation period* and finally the (4) *termination of the incubation process*. Usually incubators have set time-limits by which incubatees has to leave the incubator. In addition, some existing businesses may cooperate with the incubator in starting incubation projects, where the projects themselves are placed in incubation. As described, there are several layers of complexity in the incubation process, and it is my

[1] http://www.siva.no/internett/cms.nsf/$all/77d2495ce1d74cb4c125761800457a3e?open (10 March 2012)
[2] While initially a realty management organization for state owned properties, the government gave SIVA the task to oversee among other things the incubation program initiated by the Department of Trade and Industry. It was believed that the skills gained in realty management was a good match for business incubation, partially due to incubation's history. For a short introduction to SIVA, see: http://siva.no/internett/cms.nsf/pages/english?open

assumption that inter-organizational management control theory can help explain how these processes unfold, and how they affect innovation in the incubatees.

If the premise of business incubation is true and business incubation can stimulate innovation and regional growth, its effects can be extremely important for development in the High North. While this region is extremely rich in natural resources, there is a lack of businesses that seek to seize this opportunity. My case is located in Northern Norway, a region that has long been characterized by a diminishing population. In the latter years the Norwegian government has increased their focus on making this region more lucrative both for its inhabitants but also for businesses *(Regjeringen 2011, : 24-25)*. While the depopulation may have slowed down, if not halted *(SSB 2012)*, this is attributed to an increase in immigration, and not as a result of the government's strategy. If incubators can help in overcoming market failures and stimulate venture creation, it can be an important tool for the government in enforcing their policies, and for businesses in the High North for establishing suppliers and business networks.

This study is explorative in nature as I try to walk a new path in management control research. The reason for doing so is that I have been accepted as a PhD student at HHB starting the summer of 2012. During my scholarship, I plan on studying my thesis' topic in more depth and thus I use this thesis as a platform to establish a wide understanding of the problem area. I do not believe my analysis nor conclusions have suffered because of this. Due to the explorative nature of the study, I found it necessary to include some analytical findings in the empiric's chapter, and some empirical findings in the analysis chapter. This was done in order to create a consistent and hopefully correct image of my understanding of the case. The chapters on mobilization were particularly difficult to separate from the design and usage. I do however believe that my presentation of my findings and its analysis is correct and unambiguous. I hope the reader will feel the same.

1.2 Problem statement and its research questions

As mentioned in the introduction above management control may have significant impact on innovation in growing companies. If this is the case, management control researchers themselves should seek to understand this phenomenon better, especially since the ability to be innovative can be one of the most important competencies an organization can possess.
With this as a backdrop I present my problem statement as:

What is the role of management control in innovation focused contexts?

A case study of an industry related business incubator

Management control is here defined as formal control mechanisms, such as traditional outcome controls and behaviour controls, but also informal kinds which are often built on trust. It is important to note that when I say role in this context, I mean the role both for the management itself, e.g. as a tool for coordination and reducing appropriation concerns, but also its role in innovation work, e.g. new product development or process innovation. As I am studying the roles of management control I found it necessary not only to focus on the design of the controls, but also its mobilization. This is discussed further in my frame of reference.

With this in mind I devised three research questions in order to be able to discuss my problem statement:

1. **What are the specific features of the context of business incubation in KUPA?**
2. **What MC elements or mechanisms are used in this context?**
3. **How are these elements or mechanisms mobilized?**

While research question 3 might be the research question most closely tied to the problem statement, the other two are necessary in order to be able to actually discuss question number 3.

1.3 Further structure of the thesis

Next, in chapter 2 – *"Frame of reference – Inter-organizational control and mobilization", p.6*, I present a literature review of the role of management control on innovation work as well as the rest of my theoretical framework. The literature review will enable me to place my research in the already existing body of literature, but it will also help me discuss the challenges faced in innovation work vis-à-vis management control. My frame of reference builds on inter-organizational control literature, but is extended when appropriate. Research on mobilization of management control is also presented. In the end of this chapter, I have presented how these frameworks fit together in order to create my own frame of reference.

In chapter *3 – "Design of the research", p. 21*, I present the design of my research. In this section I present my units of observation and analysis, why I have chosen a qualitative approach in my study, description of my data collection types and procedures, and finally an

assessment of the reliability and validity of my study. For the limitations of my study, please see chapter *3.2 – "A qualitative approach – advantages and limitations", p. 22*.

Following in chapter *4 –"Findings of context, design and mobilization", p. 30*, my empirical findings are presented. This section is separated into four parts – one for each research question, and finally a summary of my empirical findings.

Next in chapter *5 – "Theoretical analysis of my findings", p. 61*, these findings are analysed. This chapter is also structured after my research questions: four chapters, with the fourth being a discussion of my analysis in light of my problem statement.

Finally in chapter *6 – "Conclusions and future research", p. 74,* I draw my conclusions on my three research questions, present a main conclusion (p. 77), and end with suggestions for further research.

Now on to the frame of reference:

2 Frame of reference – Inter-organizational control and mobilization

In this chapter I will present the frame of reference used for my thesis. First I will perform a literature review of what role management control plays in innovation work. As my context is an innovation centred organization, I expect that management control will play a role in their main strategic focus: bringing new products and services to life through the business incubation process. In my literature review I find that there seems to be a great deal of controversy in what role MC can play both for the innovations themselves, but also the organizations adopting it.

Second, I use Dekker's *(2004)* framework for inter-organizational relationship (IOR) management as a basis for exploring the design of my case's control mechanisms and the context they exist in. Dekker's *(2004)* framework focuses on two main areas of inter-organizational MC: managing the usage of appropriated resources in the IOR (*appropriation concerns*) as well as managing the value creation processes in the relationship (*coordination challenges*). While using a traditional transaction cost economics-perspective as a foundation, he fuses other more organizational centred control mechanisms on top of it. While this is not a new concept (see e.g., *(Gulati and Singh 1998; Jones et al. 1997)*), I found his framework to be the most well-developed of them , as well as covering the most recent research findings. My reason for choosing this type of framework is that it gave me a succinct way of getting an

overview over potential control mechanisms and their interaction with each other without going into implementation details. Since my context involves the two largest owners with at least one common (stimulating oil and gas related industry start-ups), and possibly several individual goals (e.g., maintaining policies or creating goodwill), Dekker's framework gives me the possibility to discuss how these mechanisms relates to both common but also individual goals.

While having seemingly good explanatory power, Dekker's *(2004)* main disadvantage is that it focuses primarily on the design of inter-organizational management control mechanisms, not their practical usage. To compensate for this I have chosen to also study the mobilization of some of the management control mechanisms in the IOR.

Mouritsen's *(2005) design* and *mobilization* article deals with how the design of management control systems can have unintended side-effects due to their inherent lack of rationality, or rather their continuously interpreted rationality *(Mouritsen 2005)*. This interpretation of rationality can lead to disconnects between design and actual mobilization, and in the worst case throw organizations into chaos. Mouritsen *(2005)* places emphasis on this mobilization as not something which is disconnected with the design. The design and mobilization exists in a cyclic relationship where changes in the management control systems, can lead to reactions in the organization which forces adaptations in the design. In other words, the mobilization of management control mechanisms reinterprets and renegotiates the assumptions of which the control system is designed upon.

2.1 Literature connecting MC and innovation

As mentioned earlier in the thesis, the effects of management control mechanisms and systems seem to be under-researched. In this chapter of the thesis, I will review the existing literature on what effects MC can have on innovation and new product development (NPD) in particular. As a basis for classifying the literature, I will be using Bisbe and Otley's *(2004)* MC research in the field of product innovation. According to theirs and my research, there seems to be contradictory findings in the existing MC literature as to what effect MC has on product innovation *(Bisbe and Otley 2004)*. I found four main categories of research:

Category 1: Formal control without consequence

The pure innovation management literature seems to minimize or ignore the effects of formal management control on the level of product innovation *(Dougherty and Hardy 1996; Gerwin*

and Kolodny 1992), something that suggest top management's usage of formal MC is not important for a company's new product development *(Bisbe and Otley 2004)*. This notion is backed up by Poskela and Martinsuo *(2009)* who found that management control systems seem to slightly inhibit innovation in highly innovative organizations. Poskela and Martinsuo explained this slight change in the level of innovation with the disciplining effect of MC on innovations that otherwise might have led to a waste of resources. This claim was strengthened by their finding that highly innovative organizations who actively used management control systems seems to perform much better than their non-MC focused brethren. In other words, MC was found to have a moderating effect on unprofitable innovations.

Category 2: Management control is a deterrence for innovation

Another line of research seems to suggest that MC is a deterrence for innovation, and not sufficiently flexible and dynamic for the rapidly changing demands of highly innovative markets *(Bisbe and Otley 2004)*. This line of research does seem to be less focused on process innovations in existing businesses, and rather focus on new product development for an external market. As corporate entrepreneurship of the process kind takes place in an already existing organization with predefined frames of reference, the outside pressures would be lower and would make this argument weaker.

Category 3: Coexistence and moderation

According to Bisbe and Otley *(2004)* there is a third stream of literature that focuses on the co-existence between MC and product innovation and MC's moderating effect on excessive innovation. In this view formal management control processes should hinder unnecessary innovation, while also transforming innovations into successful products or improved performance. Poskela and Martinsuo's *(2009)* findings, mentioned two paragraphs ago, is a recent example of this effect of MC on product innovation. While formal controls should have a moderating effect, informal control mechanisms are considered stimulating for innovation can thus complement formal control in creating an optimal level of innovation in an organization. Another group of researchers found that management accounting can have different effects depending on when and where it is used in the context of innovation *(Mouritsen et al. 2009)*. What the authors termed "short translations" of innovations are the previously mentioned effects of regulation of wasteful innovations as well as stimulation of innovation. "Long translations" on the other hand are situated on a strategic level of the organization, where management accounting forces the organization to try to understand the

long-term effects and consequences of innovations in the firm *(Mouritsen et al. 2009)*. These calculations tie together with other strategic calculations and are therefore difficult to understand without studying the organizations in detail.

Category 4: Management control helps the innovation process

This way of looking at management accounting ties in to the fourth and final stream of research, one that seems to indicate that both formal and informal MC mechanisms can have a positive effect on the level of innovation *(Bisbe and Otley 2004; Simons 1990, 1991; Mouritsen et al. 2009)*. This stream is particularly vague and has a lack of quantitative research, relying mostly on conceptual frameworks and case studies. Clark and Fujimoto *(1991)* emphasizes the importance of discipline, and the balance of freedom and control. From their perspective, management control is not only a tool to keep innovation from running amuck, but also necessary in order to fuse discipline with flexibility. It is worth to note that Clark and Fujomoto's *(1991)* focus is on the automotive industry, an industry which is characterized by a strong focus on efficient production and low costs. This is not necessarily the case in other industries, such as bio-technology or medicine.

While these traditional views of innovation as either a strategic design or an on-going process seems to be dominating, Revellino and Mouritsen *(2009)* suggests that innovations are not necessarily pre-laid out process blueprints nor strategic plans, but rather a set of trials that has to be overcome by the organization adapting to them and trying to make them succeed. In a sense, this makes innovation a soft, rather than hard design *(Revellino and Mouritsen 2009)*. The softness of the design allows the innovation to adapt and permeate the existing reality, and during these trials management control can be an important factor in deciding whether or not the innovation succeeds or not as management control helps define the way we perceive reality.

In my analysis, I unveil that there are no one single role management control plays, but rather a mesh of different roles depending on the context and goals of the actors. Now that I have presented these four different roles of management control in innovation work, I will present my theoretical backing for discussing the design of the management control elements in place in the inter-organizational relationships.

2.2 Design of management control mechanisms

In this section of the thesis I will discuss various ways one can control appropriation and coordination challenges in inter-organizational relationships. As mentioned in the introduction chapter, the design part of my theoretical reference is based on Dekker's *(2004)* framework. I have expanded on some of his points with either more recent articles or those that I found relevant for my topic. Central to Dekker's (2004)framework is the management of appropriation concerns, or in other words ensuring that resources are used for their intended purpose in the inter-organizational relationships. This will be covered in the first subsection of this chapter. The second half of his framework, how coordination challenges can be dealt with, is discussed in the second half of this chapter.

2.2.1 Dealing with appropriation challenges

Dealing with appropriation challenges can be crucial for an IOR, especially if the risk of opportunistic behaviour is large *(Dekker 2004)*. One way of controlling these risks is through the perspective of TCE, or transaction cost economics. According to Williamson *(1991)*, there are three types of structural mechanisms that governs transactions[3]: *hierarchical*, *markets* and *hybrids*. He also claims that an organization will choose the partner or contractor that will lead to the lowest possible transaction cost.

The choice of structural configuration is dependent on several characteristics of the transaction itself, i.e., asset specificity, uncertainty and frequency *(Dekker 2004; Williamson 1991)*, as well as human nature, i.e., bounded rationality and opportunism *(Dekker 2004; Williamson 1991)*. In an ideal situation, one would have a good understanding of the first three characteristics of the transaction, and hopefully have a sense of whether the partner or supplier is likely to act opportunistically. In reality there characteristics are difficult to ascertain, due to the limited, or bounded, rationality of humans *(Dekker 2004; Williamson 1991)*. This bounded rationality makes writing a complete contract impossible or prohibitively expensive, which leads to incomplete contracts. These incomplete contracts contain flaws that

[3]Osborn and Hagedoorn (1997) claims that the TCE perspective has become more of a guiding metaphor, than a "fixed set of propositions" (Osborn, R. N. and J. Hagedoorn , 1997 :264). While this might be true, Williamson seems to be one of the leading figures in this field, and both Dekker and several other authors used his classifications and suppositions as a basis for their frameworks and ideas. I will follow in their footsteps in my thesis.

might lead to increased risk for at least one of the involved parties depending on the level opportunism of the partner or supplier. In order to manage these flaws and hopefully control them, many forms of control can be used as we will see in the following chapters.

For my study I expect the transaction type will be predominantly of the hybrid variety, in other words, it will be a mix between hierarchical and market transactions *(Williamson 1991; Dekker 2004)*. This form of transaction *"sacrifices some of the high powered incentives of the market in favour of superior coordination and some cooperativeness of the hierarchy in favour of superior market incentives" (Dekker 2004, :29)*, something which is also argued for by Williamson *(1991)*. As both authors mentioned in the respective articles: the polar extremes of hierarchical and market relations are just that; extremes. Most inter-organizational relationships are somewhere in between, regulated by the amount of appropriation concerns, i.e., the five above mentioned characteristics of the transaction.

While the transaction cost perspective is useful for understanding how the overall governance of the firms can be structured, the goals of inter-organizational relationships are not always reducing transaction costs. Both time, location and type of transaction costs can have varying degrees of saliency for different embedded configurations of alliances and networks according to Osborn and Hagedoom *(1997)*. Dekker *(2004)* proposes another function in addition to reducing transaction costs: control can help in *"creating the conditions that motivate the partners in an IOR to achieve desirable or predetermined outcomes" (Dekker 2004, :29-30)*. This view of control in an IOR setting admits that other strategic reasons than reducing risk (and therefore transactions costs) can be important.

A second set of mechanisms are needed to ensure that the joint value-creation activities are managed continually. In his article, Dekker *(2004)* called these mechanisms *coordination mechanisms*, and divided these into two separate categories, namely *formal controls and informal controls.* In the following section I will discuss these forms of control, their implications as well as expand on some of Dekker's ideas. First of all though, I will present three different types of interdependence. The reason for doing so, is that each of them places unique demands of the types of coordination mechanisms to be used.

2.2.2 Coordination mechanisms

With transaction cost economics governing the resource pooling, determination of tasks to be performed and decisions of division of labour *(Dekker 2004)* other mechanisms must take care of interdependent decisions and coordination. According to Gulati and Singh *(1998)*, increasing levels of interdependency in these areas leads to a greater need for bureaucratic, or in their terms, administrative control.

Interdependence

According to Thompson *(2003)* as well as Dekker *(2004)*, there are at least three types of interdependence: *pooled, sequential* and *reciprocal*.

Pooled interdependence is, just as the name suggests, a form of interdependence based on a common set of resources from which contributors can draw, and add to *(Dekker 2004; Thompson 2003)*. An example of this type of interdependence can be two departments producing parts for the same good, but without either part being necessary for any of the departments' production, e.g., a car manufacturer's car door production does not need the engine to be produced in order to produce their part or vice versa, but for the overall process, both might be equally important. In these types of relationships, there is little need for coordination, as the sequence of events is not crucially important *(Dekker 2004)*.

Sequential interdependence on the other hand, *does* demand that the other departments' service or good is produced before their own *(Thompson 2003; Dekker 2004)*. A typical example of this can be how PC-manufacturers such as Dell or HP are at the mercy of Intel or AMD, as they cannot ship a PC without a central processing unit (CPU). In this case, there is a higher demand for extensive coordination as the failure to deliver could possibly have disastrous results for the customer (here Dell or HP).

The final type, *reciprocal* interdependence, is the most complex and control intensive variant *(Dekker 2004; Thompson 2003)*. In this case there is a cyclic dependency between the actors where they are both dependent on the output of the other actors but they also feed them with necessary input. Two examples of this can be a research consortium or joint-development program. This type of interdependence demands a tighter fit between partners, and control complexity can be both varied and high.

Next I present the two main types of formal control according to Dekker *(2004)*.

Formal controls

As their name suggests, these controls consist of formal organizational mechanisms and contractual obligations *(Dekker 2004)*. According to Ouchi *(1979)* these controls can be divided into *outcome* and *behaviour* control mechanisms, where outcome controls are closely related to the concept of the market type of governance *(Ouchi 1979, 1980)* and behaviour controls are most closely tied to hierarchy type of governance *(Ouchi 1979, 1980)*. To understand this reasoning, it helps to first give examples of the two types of control.

Outcome control mechanisms are controls which predominantly focus on achieved results compared to previously set targets *(Dekker 2004; Merchant and Van der Stede 2007; Ouchi 1979)*[4], often rewarding good or punishing poor results *(Merchant and Van der Stede 2007)*. Observant readers might notice that this means that there are both ex-ante (before the fact) controls as well as ex-post (after the fact) controls in outcome control mechanisms. While ex-ante controls predominantly focus on goal setting and the structuring of incentive systems as well as reward structures *(Dekker 2004)*, the monitoring as well as the rewarding (or punishment) itself is done ex-post. Both ex-ante controls and ex-post controls are important: the former sets common goals and expectations *(Das and Teng 1998; Merchant and Van der Stede 2007)*, while the later both enforces and effectuates the former through incentive and reward pay-outs. As we can see this form of control leaves much freedom to the actors, as long as they achieve the target they have been dealt, just as with the market form of governance; little or no direct control of actions or behaviour is being done, only results matter.

Merchant and Van der Stede *(2007)* expands on Ouchi's *(1979)* ideas and describes steps organizations has to go through in order to create a results based control mechanism. According to them, *"the implementation of results controls requires four steps: (1) defining the dimension(s) on which results are desired (or not desired), such as profitability, customer satisfaction, or product defects; (2) measuring performance on these dimensions; (3) setting performance targets for employees to strive for; and (4) providing rewards to encourage the behaviours that will lead to the desired results."* *(Merchant and Van der Stede 2007, :29)*. All of these steps have pitfalls, e.g., too low or high target setting, rewarding or punishing the wrong subjects or errors in measurement. Merchant and Van der Stede *(2007)* place great

[4] Merchant & Van der Stede calls these controls "result controls" instead of outcome controls, and expands on Ouchi's ideas as the following paragraphs show.

emphasis on the importance understanding what results are desired in the controlled area, as well as that the controlled subject has a significant influence on the measured output. Even if the organization understand what results are desired as well as being sure the controlled subject can influence them, there is no guarantee that the results can be measured effectively *(Merchant and Van der Stede 2007)*. An example of this can be the level of innovation in a research group. A number of dimensions can be measured, but which measure is correct is ambiguous: Is it the number of patents that determines the level of results? Is it the sum of R&D investments, or maybe the number of products or services that have gone to market? In some cases this can be a very difficult question to answer.

Behaviour controls mechanisms controls pre-specified behaviour instead of outcomes *(Dekker 2004; Ouchi 1979; Merchant and Van der Stede 2007; Gulati and Singh 1998)* and often follow-up this pre-defined behaviour through some kind of monitoring. As such this form of control can be more invasive to the internals of an organization. According to Gulati and Singh, typical behaviour controls can consist of *"planning, rules, programs, and procedures" (Gulati and Singh 1998, :786)*, where *"planning involves pre-setting schedules, outcomes and targets; and rules, programs, and procedures emphasize formal controls in the form of decisions made a priori for various likely scenarios." (Gulati and Singh 1998, :786)*. While these controls are ex-ante controls, behavioural monitoring and rewarding can be a form of ex-post behavioural control *(Dekker 2004; Merchant and Van der Stede 2007)*, as can action accountability as well as behavioural constrains (both physical constrains and nonphysical ones such as resource limitations) *(Merchant and Van der Stede 2007)*.

Both Das and Teng *(1998)* as well as Merchant and Van der Stede *(2007)* argue that in situations where there are difficulties in measuring results, or where there is goal ambiguity or incongruence, behaviour controls can be more useful than result controls. If one considers the weaknesses of result controls outlined three paragraphs ago, this seems reasonable. It is important however to keep in mind the behavioural control can be a negative control, i.e. a forms of control that limits behaviours instead of enabling them *(Merchant and Van der Stede 2007)*. This can potentially be a problem if there is a necessity to adapt to dynamic environments.

According to Merchant and Van der Stede *(2007)* there are, as with outcome controls, characteristics of the domain being controlled that can affect the effectiveness of behavioural controls. In their eyes, there are two prerequisites which has to be fulfilled: *"(1) organizations*

need to be able to determine what actions are (un)desirable, and (2) organizations are able to ensure that the (un)desirable actions (do not) occur" (Merchant and Van der Stede 2007, :81). While (1) might seem straight-forward, this is not always the case. In processes such as innovation work, the highly uncertain nature of what actions should be performed might hinder the mapping of reasonable actions. As for (2), this can get even trickier. After all, if it was simply to determine the appropriate actions towards getting an innovation produced, innovation work would not be as challenging or dynamic.

Informal controls

Trust, Dekker *(2004)* argues, is the principle enabler of social control in IORs. If this is the case, it is useful to define trust, as the term can be ambiguous. In my thesis I have chosen to use the same definition of trust as Dekker *(2004)* does, namely trust as "*a psychological ability based upon positive expectations of the intentions or behaviour of another*" *(Rousseau et al. 1998, :394)*. This carries the implication that trust is not an object that can be measured, a behaviour or action, but rather "*an underlying psychological condition that can cause or result from such actions*" *(Rousseau et al. 1998, :394)*. While trust is a very complex term and can have differing meanings across disciplines *(Rousseau et al. 1998)* and even across various conceptual levels, e.g., personal trust, intra-organizational trust, or inter-organizational trust *(Rousseau et al. 1998)*[5], it seems to have a significant impact on the intensity of formal controls *(Dekker 2004)*, but also as a mechanism of control in and by itself.

There are several views of trust, and each of them has different antecedents and implications for control in an IOR setting. According to Sako *(1995)* and Dekker *(2004)*, *goodwill trust* is a form of trust which relies on the partner not behaving opportunistically. This trust can rely on, e.g., past experiences, social norms (as is more typical in other cultures, such as in Japan) or reciprocity. Sako *(1995)* also outlines a different type of trust: *capability based trust*. This form of trust is founded on the belief that the partner is capable in performing tasks in a satisfactorily way. Capability based trust might not only be based on technical or practical characteristics of the IOR, but also culture and shared history[6] as was demonstrated in the case of NMA and RIB in Dekker's *(2004)* study.

Other perspectives on trust have been presented by Rousseau, Sitkin et al. *(1998)*. In their article, they present three different types of trust: *calculus-based* trust, *relational* trust and

[5]Rousseau, Sitkin et al. (1998) claimed that studying trust within and between firms were akin to riding an organizational elevator up and down. This led one to only seeing the interconnected hallways, and missing the minute details.

[6] By history it is meant that over time, the understanding of the other partners capabilities will grow.

finally *institution-based* trust. Calculus based trust is based on utilitarian considerations *(Dekker 2004)*. According to Williamson *"Calculative trust ... is a contradiction in terms" (Williamson 1993, :463)*, and according to him, trust is not a part of business at all and belongs to people's personal lives only. This is in stark contrast to Coleman *(1990)*[7], who claimed that trust is perfectly calculable and hinges on three variables: (1) the chance that the trustee will be trustworthy, (2) potential gain of the trustor if the trustee is trustworthy, and finally (3) the potential loss if it turns out the trustee did not deserve our trust *(Bachmann and Zaheer 2008; Coleman 1990)*. While it is tempting to view trust in this manner, its failure to take into consideration reciprocity or the social embeddedness organizations may have make Coleman's suppositions hard to swallow when studying organizations *(Bachmann and Zaheer 2008)*. Perhaps a more nuanced view on trust is needed, one that admits that a leap of faith may be needed both to build initial trust, but also strengthen it over time *(Bachmann and Zaheer 2008; Dekker 2004)*.

Relational trust on the other hand explains trust as something built up over time when partners continually interact with each other. This interaction gives birth to a common understanding of both capabilities, but also establishes goodwill *(Dekker 2004)*. While one cannot implement this kind of trust, it can be built over time *(Dekker 2004; Das and Teng 1998)*. One such vehicle for building such trust can be through standardized routines and communication channels, something which also influence formal coordination *(Dekker 2004; Jones et al. 1997)*.

The last type of trust discussed by Rousseau, Stikin et al. *(1998)*, is *institution-based trust*. This variant of trust is based on societal norms, laws and regulations, and can have both positive and negative effects; it is unlikely that someone would place the same amount of trust in the legal system in an unstable third world country, as it would in a stable first world country. Fukuyama *(1995)* argues that societies characterized by high levels of inter-organizational trust are signified by greater economic growth. By acting as a taken-for-granted 'lubricant' between organizations, transaction costs are lowered.

Finally it is worth mentioning that *partner selection* can be crucial in order to mitigate control problems before they spring into existence *(Ouchi 1979; Jones et al. 1997)*. This can be tied into Sako's *(1995) goodwill* and *capability* trust, as selecting partners are considered to be trustworthy in both regards can decrease the need for formal controls.

[7] His model is known as the "Rational Choice" approach.

2.2.3 Trust's importance in inter-organizational control

If trust is the de-facto foundation for social control in IOR-management, the question of how trust influences formal control surfaces. Central to this discussion is whether or not trust is a *substitute* or a *complement* to formal control mechanisms in the management of appropriation concerns *(Rousseau et al. 1998; Das and Teng 1998; Dekker 2004)*.

If trust has a substitutive effect, it implies that trust and formal control are inversely proportional. In effect this means that the higher level of trust, the lower level of formal control and vice versa. This is in line with Fukuyama's *(1995)* claims about societal norms and reciprocity; societies with higher levels of trust among organizations reap economic benefits through lower transaction costs in the society as a whole. One implication of this inverse correlation between trust and formal control, is that formal control must then be a signal of lack of trust in either goodwill or capabilities of the partner *(Das and Teng 1998)*. According to the findings of Dekker *(2004)* however, it seems like the choice of formal control types is directly correlated with the characteristics of the transaction, i.e., level of asset specificity, frequency and uncertainty, while the intensity of these controls are correlated with the level of trust. In other words, the transaction itself decides which controls to use, but the strictness of enforcement is determined by the goodwill and capability trust between the partners.

What then if trust has an *additive* effect instead? In that case, more formal controls would lead to a higher degree of trust in the relationship. One explanation for this additive effect, might be that formal controls can contribute to learning between actors, and through it, strengthening of both goodwill trust (e.g., if no opportunistic behaviour has been displayed by the partner over time, goodwill trust can be strengthened *(Gulati 1995; Kale et al. 2000)*), and capability trust (e.g., the longer one has cooperated with the partner, the more hard and cognitive data one has collected and thus knows more about his capabilities). Another effect of formal controls that can help explain an additive effect, can be that both outcome and behaviour based management mechanisms set goals and expectations, making the relationship less ambiguous *(Dekker 2004)*.

Dekker *(2004)* tries to add to the discussion of whether there is an substitution or additive effect between trust and formal mechanisms by presenting three observations: (1) *non-linearity between trust and formal controls,* (2) *trust as a moderating effect on the formal*

control mechanisms, and finally (3) *differentiating purposes of control may lead to a duplicity between control mechanisms.* I will discuss each of these observations in turn.

Non-linearity between trust and formal controls contains the observation that trust is a low-cost solution to control problems, and thus if trust is enough to safeguard the transaction formal control might be toned down. This implies that there is a complimentary relationship between trust and formal controls, at least until a certain threshold where trust is no longer enough to safeguard the transaction.

His second observation, that *trust has a moderating effect on formal control mechanisms* entails that trust does not influence the choice of formal control mechanisms, but rather moderates the effect or intensity of them *(Dekker 2004)*. This implies that the types of formal control chosen is fully dependent on the type of transaction, while trust *moderates* their usage.

The final observation deals with the *purpose* of control. Dekker *(2004)* uses the example of a firm that has almost complete trust in its partner's goodwill, but formal mechanisms are still needed to control the coordination of tasks in the relationship. In this example there is little reason to believe there will be opportunistic behaviour present, but the partner's capabilities must still be managed. While this might seem to diminish the role of trust, Kale, Singh et al. *(2000)* found that a high level of trust coupled with formal mechanisms of control facilitated inter-organizational learning easing future cooperation.

It is interesting to note that while high levels of trust are often considered to be good, there can be drawbacks in having too high levels of trust. This is illustrated by Adobor *(2006, :473)* where he found that: *"strong interpersonal ties in alliances can sometimes prevent dissolution of faltering arrangements, as feelings may prevent the making of difficult, yet prudent, termination decisions."* In other words, if trust gets too strong, one can be blinded by it, and fail to make correct decisions.

While Dekker's *(2004)* framework is thorough in explaining the importance of managing appropriation concerns and coordination challenges, he admits that the framework is too static and recommends future studies to take a more dynamic approach. While his suggestion for doing to is through longitudinal studies, the time allotted for my thesis does not allow for this approach. Instead I will use Mouritsen's *(2005)* ideas of mobilization of management control to study how the management control mechanisms discussed in this sub-chapter are actually used, and how their usage affects the goal attainment in my case.

2.3 Mobilization of management control mechanisms

So far I have gone to great lengths explaining how management control mechanisms can be structured and designed in an inter-organizational setting, but as Dekker *(2004)* commented; this view of control mechanisms is static which is one of its greatest weaknesses.

To compensate for this weakness I draw on Mouritsen's *(2005)* concept of the interconnectedness between the design and mobilization of management control. First I will discuss the two terms before describing how Mouritsen *(2005)* argue they are interconnected and what consequences this interconnectedness can have for management control.

Design entails the actual structure of the management control elements or systems. In his article, Mouritsen *(2005)* used the example of how EVA[8] and BSC[9] as management control systems have completely different structures, focus on ex-post (EVA) vs. both ex-ante *and* ex-post (BSC) measures, and have completely different views on risks. This led him to conclude that the design of management control systems could change even the most basic perception of the world seen from the company's point of view. In other words, the management control systems became like a pair of glasses worn by the company, morphing reality by what was measured, and how it was done *(Mouritsen 2005)*.

Mobilization on the other hand deals with how the management control mechanisms are actually being used by members of the organization. As Mouritsen *(2005)* mentions several times in his article: the design of the management control system can lead organizations into upheaval and even chaos. This happens through the disconnect between the design and actual mobilization of the control mechanisms. Mobilization and design are in other words intertwined, and cyclic. Mobilization begets changes in design and design, as it is never fully rational and fitting to the real world, begets new ways of mobilization. If new management control mechanisms are introduced and members of the organization disagrees with either the implementation itself, or the consequences of it, they may work against the changes, finding ways to do things their own way. Mouritsen *(2005)* also mentioned how the rationality behind management control systems could be suspended in the time of crisis, e.g., if a company believed the key to profits were having skilled employees, they could still fire them if they got into financial trouble. According to Mouritsen this illustrates that the control mechanisms or systems themselves are just abstractions, and imperfect ones at that.

[8] Economic Value Added
[9] Balanced Scorecard

How can then these concepts affect the management control mechanisms in an inter-organizational relationship? If it is true that the design of the management control mechanisms can be seemingly rational, but come into conflict with the everyday procedures and ways of doing things in an organization *(Mouritsen 2005)*, the same conflicts are likely to occur between organizations. Perhaps this is the reason why companies with a high level of relational goodwill trust seem to be better able to learn and adapt to their partners when there are formal mechanisms in place *(Kale et al. 2000)*.

2.4 Summary of the frame of reference

As we can see there are several modes of control that can be designed to be used in inter-organizational relationships. Some of these are formal in nature while others are informal, but all of them can be affected by the transaction costs between the parties but also the trust between the different actors. While the types of control used may be dependent on transaction costs alone, the intensity of these controls would be inversely proportional to the level of trust in the inter-organizational relationships, i.e., higher levels of trust would lead to less intense controls *(Dekker 2004)*. Also the interdependence between the actors may influence both the types and intensity of the controls used in the inter-organizational relationships, as high interdependence would lead to high levels of control *(Dekker 2004)*. These considerations may help explain the special contextual features which determine the role of the management control mechanisms in use towards the incubator and the incubatees.

In addition to the design, the mobilization of said mechanisms can according to *Mouritsen (2005)* have far reaching effects which the design of the control system is not able to pick up. Since we humans have limited rationality and foresight, we may not fully understand the consequences of our actions, and those actions can thus have both negative and positive consequences for the goal attainment of the organization. Mouritsen's *(2005)* concept of design and mobilization enables me to take this human aspect of management control into my analysis for explaining the usage of the mechanisms.

Drawing these two frameworks together I ended up with the following relationships:

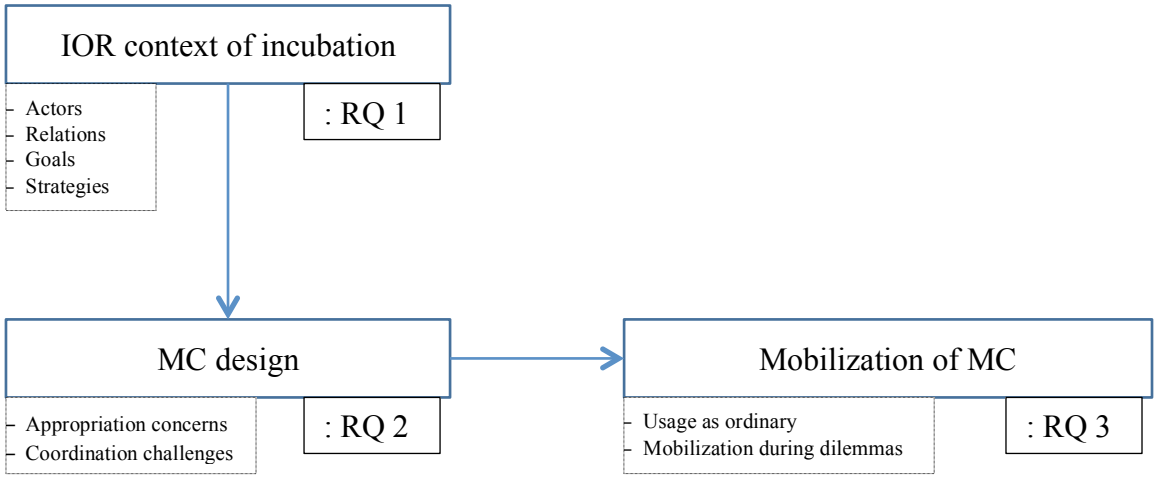


Figure *1* – Illustration of how my frame of reference fits together

I have tried to illustrate that the basis of the management control design lies in the inter-organizational context of the business incubator and the actors surrounding it. The square representing context is tied to research question 1: "What are the specific features of the context of business incubation in KUPA?" By answering this question, I should be able to discuss what design is in place, i.e., research question 2. As outlined by Dekker *(2004)*, there are two factors determining the types and levels of controls: appropriation concerns, and coordination challenges. The usage of the management control can come in two forms according to Mouritsen *(2005)*: ordinary usage, and mobilization during tensions. Ordinary usage will be discussed mostly when presenting and analysing empirics regarding design, while mobilization is presented and discussed separately. This last part is tied to research question 3.

With this frame of reference in mind I will continue on with describing my research design and how my research was constructed. This is done in order to understand how I used the frame of reference for answering my research questions.

3 Design of the research

In this chapter I will describe my data collection methods, and why I chose them to help answer my research questions. I will also describe why I believe this combination of data collection and analysis methods helps ensure research reliability and validity.

3.1 The unit of observation and analysis

Note that I make the distinction of the units of observation and the units of analysis, with the first being what I study empirically and observe, while the latter is what I am trying to analyse based on my observations.

In my work I am studying the role of the management control mechanisms and in place in a specific setting of inter-organizational relationships (see *Figure 2, p. 32* and onwards for a more in-depth explanation.) The way I collected data was through interviews with managers and founders, and through an introductory document study. Both were centred on the mechanisms themselves and the context in which they exist. As such my units of observation are the inter-organizational context (its actors, relations, goals and strategies), as well as the mechanisms, their usage and mobilization.

In my analysis chapter, I analyse the context, its influence on management control design, and the design's usage and mobilization. Additionally I discuss how these parts create the role of the management control mechanisms in my case. As such, the units of analysis are the context, design, mobilization and roles of the management control mechanisms.

3.2 A qualitative approach – advantages and limitations

My thesis is qualitative and explorative by nature, and there are several reasons for this choice. First of all my research is descriptive in nature, as I am trying to discuss the roles of management control mechanisms among and in organizations considered to be focused on innovation. In order to discuss the roles I study the context of the organizations, explore their controls, usage and mobilization. Due to this, typical quantitative methods such as surveys or questionnaires would limit my research to just the questions asked, instead of giving me the possibility of having an open mind when doing the research, hopefully finding links between the context, design and the mobilization.

Finding these linkages were after all a central part of my research, as very little research has been done on the topic. Doing this kind of research proved to be very challenging, especially as I had to continuously revise my perceptions of the context I was studying, making my approach reflexive in nature *(Alvesson and Sköldberg 2000)*. This in turn affected my frame of reference and analysis. Approaching the problem in this manner enabled me to go from a relatively barren understanding of the role of these mechanisms, into creating a hopefully

congruent image of the roles of the mechanisms between, and in some cases in, these organizations.

Another part of my research which made a qualitative approach useful was the fact that my motivations were in seeing how these mechanisms could affect innovation in a specific region and setting. Generalizing my research through the use of quantitative methods could lead me to missing some of the interesting usages of the mechanisms, as there is good reason to believe that both business incubators and industrial partners have different philosophies regarding leadership, structure and operations. If this were the case, my findings might not be relevant for the context of Northern Norway and the oil and gas industry. Having this in mind, I do believe my research can show interesting examples of how management control mechanisms can influence innovation work. I have attempted to do so, by categorizing the roles from chapter *2.1 – "Literature connecting MC and innovation", p.7.*

Finally, a qualitative approach makes it possible for corrections of misunderstandings and ambiguities along the way during the data collection phase. Since many of the terms used can be unclear and difficult to explain, operationalization of terms is quite difficult. This is the case regardless of the fact that this form of data collection and analysis gives room for explanations along the way.

As mentioned in the end of my introduction chapter, there are some analytical elements in the empiric's chapter, and some empiric's in the analysis chapter. This was necessary in order for me to convey my findings in the best possible manner. Separating them created a too strong divide between areas that were perceived by me as floating, and which penetrated many different areas of my work. One example of this would be the role of trust in my case. Hopefully this will help my thesis, and I do believe this dilemma was handled in the best possible fashion.

3.3 The process of data collection

Early on in the writing process I decided that basing my thesis on interviews only would not make it possible to understand the formal systems adequately. Therefore I decided to use a form of triangulation. For my thesis I have chosen two types of data collection: in-depth, semi-structured interviews, and an introductory document study. My empirical focus were on understanding the context of business incubation in KUPA (actors, relations, goals and strategies), the design of management control mechanisms (for appropriation concerns and

coordination) and finally the use of these mechanisms during ordinary operations, dilemmas or when facing contradictions between design and usage (mobilization.) If this is unclear, please refer to *Figure 1, p. 21*, and its description. Due to this empirical focus, my interview questions were created for this purpose. How they were divided into each interview is discussed in the next section. My document study on the other hand was more general in nature. Through it I found evaluation reports from the government, Harstad University College, and other students writing their theses'. Not all of these reports were used, but they were able to give me links to other relevant material. Internal documents were nevertheless the most used documents for this part of the data collection.

Next is a description of each of the methods and how I applied them.

3.3.1 Semi-structured interviews

In my attempt of an illustration of my case's context, I have tried to show that the organizations are situated in a network with several inter-organizational relationships. In my thesis I have tried to cover the relationships between the incubator and the mother company, the incubator and SIVA and finally the incubator and two incubatees. Below I describe the different actors I have been in contact with, the transition from my research questions to empirical questions in the interviews and finally why I believe interviewing them gave useful information for answering my research questions. All of the interviews were semi-structured, leaving room for deviations from the interview guide if my informants felt compelled to tell about matters they either felt strongly about or were important to the topic of the interview. As a precursor to the full interviews, I performed an orientation view with the information director[10] at Statoil Harstad while he was visiting Bodø. The interview was open in nature, with only a topic and a few very broad questions to start with. It lasted for about one and a half hour. This interview was performed in order to give me a better understanding of the research's context, something which enabled me to develop a more robust interview guide for the longer, semi-structured main interviews. The first semi-structured interview where performed well in head of time for the subsequent interviews. This was both done for the sake of refining my interview guide for the following interviews, but also for getting a chance to ask questions surrounding the formal documents used in my document study. All interviews but the orientation interview with Statoil Harstad's communications director were transcribed.

[10] In Norwegian: Informasjonssjef

Translations of quotations were done when inserting them into the thesis. The original spoken language during the interviews was Norwegian. Language idioms were translated to the best of my abilities, using American or British equivalents.

For the owners of the incubator and KUPA itself I decided on doing two interviews with each of them, where the first interview was themed around interdependence, design and role of the control mechanisms, as well of the mobilization of them. Questions which dealt with trust and its influence in each of these areas were also incorporated into the interviews. This ties into chapter *2.2* and *2.3*, and research question 1-3. The second interview dealt with what role these mechanisms had for innovation work and goal attainment for the organizations. These questions were coupled with research question 3 primarily. Spacing the interviews in this manner enabled me and my informants to have a more reflected discussion in the second interviews.

As for the two incubatees I interviewed, I expected less formal control from KUPA based on my interviews with the incubator itself. As such, I only performed one interview with each of them. These interviews consisted of questions about interdependence, ambitions, usage of formal controls, trust's role in regards to these dimensions, as well as how their innovation work were affected by the management control mechanisms and the perceived trust between the actors. The empirical questions in these interviews allowed me to gather data to help answer research questions 1-3.

I decided early on that I wanted to discuss the roles of MC mechanisms in innovation work, and for this reason choosing a business incubator was an obvious choice (see chapter *1.1. "The context of business incubators", p. 3*.) Deciding on the other interview subjects was more difficult however. After discussing with both my supervisor, but also my colleagues at the Nordland Research Institute, I decided on in addition to interviewing the business incubator I would also interview its two largest industrial partners (by equity ownership in the incubator), as well as two incubatees. This was done to better understand the mechanisms in place, as the industry partners often have a direct interest in the products and services produced by the incubatees, and can thus have managed relations with them outside of the incubator proper. In addition, having this perspective helped me see different goals and objectives of the innovation work and how the mechanisms were used to govern them. Following are descriptions of each of the actors in my case study:

The business incubator – Kunnskapsparken Nord AS, or KUPA

As described in the context chapter, KUPA's industry incubator is the organization which is the central actors in my case (if unclear, please refer to *Figure 2, p. 32)* and its subsequent discussion.) Situated in Harstad in Northern Norway, they are a very successful business incubator with strong funding from their industrial partners. While started in 2004 (then named "Kunnskapsparken i Harstad") without any of their major industrial partners as owners, they expanded in the following years. By the end of 2007 both Statoil and SIVA had acquired equity in the company. One year later, in 2008, two new industrial partners entered as owners: Total E&P Norge and Bergen Group. Statoil and SIVA remain as the two largest owners, with Statoil being the only major owner with any considerable presence in the Harstad region.

My two interviews with KUPA took place in Harstad during a two week period earlier this year. Both interviews took place at their offices in Harstad during work hours, and were close to 3 hours in total length. The interview object was the CEO of the organization. He has extensive experience in public management, having had leader positions in the public sector since 1994. According to him, his leadership style is focused around a scorecard[11] methodology where the emphasis is on following up on individual achievements while keeping project leaders motivated.

In addition to providing me with both strategic documents, he also put me in contact with two incubatees which I subsequently interviewed. Both of them are presented later in this sub-chapter. Utilizing this contact in finding incubatees, I was able to find two cases that differed in age, maturity of product, backgrounds of the owners and several other contextual characteristics.

The off-shore operator – Statoil

As the mother company of the organization and the largest shareholder, Statoil is perhaps the most important of the actors connected to the industry incubator and is therefore deserving of being interviewed. Having long traditions in the local community, Statoil is an important employer for the relatively small town of Harstad. Since the government owns the majority of the shares in Statoil, political considerations or social responsibilities might be important for this actor.

[11] In Norwegian: målstyring

Both of my two interviews with Statoil in Harstad took place during one week this year. The interviews took place at their main offices in Harstad, and in total the interviews lasted for close to 2 hours. My interview object was the industry coordinator of Statoil in Northern Norway. Fairly new to this position (but not in Statoil), he had only been in his current job since New Year of 2012. That did not make him new to the setting however as he is a serial entrepreneur that has long experience with start-ups in the oil and gas industry. Having worked for over 20 years on the supplier side of the market, he could see both sides of the supplier / operator relationships. This made him a valuable informant in understanding both Statoil's perspective on industry incubation, but also the hurdles both start-ups and established actors have to deal with.

The representative of the government – SIVA

Like Statoil, SIVA's motivations have a political dimension, but unlike Statoil who primarily exists to make profit, *"SIVA's main objective is to contribute to the achievement of the Norwegian government's policy goals in remote areas"*[12]. As this is a rather open-ended goal, one might expect that this leads to softer control mechanisms as quantification of performance is difficult. However, knowing that governmental organizations often require harder mechanisms and measures due to their management style, I also expected this to be mediated somewhat.

Both of my interviews with SIVA were with their Director of Innovation. She have been working at SIVA since 2006, starting with project work and progressing through the ranks, becoming Director of the Industry department in 2007 before she in 2011 became the Director of the now combined Industry and Innovation department. She is also SIVA's representative in the board of directors at KUPA, so she has a good understanding of both SIVA's general industrial incubation efforts and particular knowledge of KUPA.

Incubatee 1 – The established actor pushing for new markets

Since the main goal of the incubation process is creating successful companies *(Hackett and Dilts 2004)*, I would argue that studying the output of the process, the incubatees, to be important. After all, the role of the management control system is very much dependent on what it is trying to manage or control. As mentioned in the descriptions of KUPA, I found two incubatees through the CEO of the business incubator. While this might lead to a biased sample, the successful incubatees were more interesting to me due to the higher likelihood of

[12] http://siva.no/internett/cms.nsf/pages/english?open (16. March 2012)

them having a working organization. The ideal situation would be if I could judge and pick among all incubatees, but the time allowed for the thesis limited me in doing so.

The first incubatee is a company with long traditions in Harstad, being established in 1951. Their main focus is on electrical rotating engines, both on and offshore. The major reason for choosing this incubatee for my study was that they have relied on KUPA for their networks and competencies in business and project management, especially in connection with the oil and gas industry. Being a relative newcomer to this particular field, they were in need of domain specific knowledge on how to become a supplier. In this regard the business incubator was able to provide both access to networks, but also knowledge from their own experience.

For Incubatee 1 I performed a single interview lasting for almost exactly 1 hour during work hours at their main office. The person I interviewed was the service manager in the organization. His work included traditional business management tasks in addition to being responsible for production and operations. Having had a long track record in the telecommunications industry (25 years as an electrical engineer, five years with leadership responsibilities), he decided to start working for Incubatee 1 three years ago when he felt his old job gave too him few challenges.

Incubatee 2 – The start-up with industry ties

Incubatee 2 has unlike Incubatee 1 no tradition in the region, being very recently established. This is not to say that they are a slow mover or at a loss for progress: being taken into Statoil's LUP program they receive financial support from both Statoil and Innovation Norway. With extensive combined experience in the oil and gas industry both on the engineering and business side they are currently trying to develop a scale monitoring system for oil wells. If successful, their invention could substantially help old and new wells alike in becoming more profitable. While having strong specific domain knowledge of the oil and gas industry, they are new to business processes in an innovation context.

For Incubatee 2 I performed a single interview lasting for close to 1 hour on a Saturday at their new office locale in Harstad. My informant was one of the founders of the company and in charge of the innovation process. He is an oil well engineer with 25 years of experience from the industry, 22 of them in Statoil.

With both incubatees having similar ambitions, their different backgrounds, size and stage in development made them valuable as to study the roles of management control in two different contexts.

3.3.2 Document study

Since I suspected the management control mechanisms were being mobilized in a way that diverged from the design of the systems, I felt it was important to get an unbiased view of the formal reporting mechanisms in place in my case both vis-à-vis the mother company but also SIVA. In order to get my hands on the formal reporting schemas and templates, I contacted representatives from each of the companies involved in the reporting process (the industry incubator, the mother company and SIVA.) It quickly became clear that the most important formal documents were related to the board of directors, which seemed to be the primary channel of control in these top level relationships.

In SIVA's case I also acquired documents regarding resource acquisition in the case of the incubator vis-à-vis SIVA. This contributed to understanding how they dealt with appropriation concerns. Getting access to these formal rapports, as well as policy documents helped me in understanding the objectives set by SIVA. This was useful as their aim is not profit; rural policies and creating jobs can be much more important from their point of view depending on the focus of their principal; the Norwegian Ministry of Trade and Industry. Other publicly available documents (annual reports, press releases, parliamentary reports and company websites) were also used to get a better understanding of the scale and scope of the different actors, and what their owners and stakeholders felt about them.

3.4 Reliability and validity

Since my research is qualitative in nature, ensuring reliability is difficult, and perhaps not necessary in the strictest sense of the term. While I am researching an industry incubator, there are numerous contextual characteristics which can play important roles in determining types of control, the intensity of them and their effects on innovation work. Having only one case makes any comparisons difficult. While this might be the case, the purpose of my study was not to give a definitive answer to what role management control plays in innovation work, but rather to illustrate what role it *can* play. It might be interesting to do quantitative studies in regards to this in the future, but doing it at this stage would be difficult due to the low levels of research done on the topic.

Statistical, or external, validity cannot be ensured in my study. This is obvious due to having only one case. On the other hand I can ensure analytical, or internal, validity by designing my research in such a way that it is transparent with sufficient data in order to achieve internal

data saturation. Having interviewed two of the largest partners, representing both the private and governmental owners as well as having interviewed two very different incubatees I believe I have seen examples of many interesting effects management control can have in these kinds of inter-organizational relationships.

One caveat however is the concept of trust. It is a difficult concept to study as it carries many different meanings and connotations at mentioned in the theory chapter. While my opinion is that I mediated this problem by asking about trust from different angles, by first defining the term to the actors, as well as asking the informants what they meant by trust in this setting, it is definitely possible that I have cultural bias which influences my view of trust. Following this example, this assumption would decrease reliability for readers from different cultures. Other effects such as signalling of trust through other means than speech can be difficult to pick up if one is not doing direct observation over time. Unfortunately the time and resources allotted to my master thesis did not allow me to make this separation.

This concludes my design chapter. Next is the empirics in Chapter 4: findings of context, design and mobilization:

4 Findings of context, design and mobilization

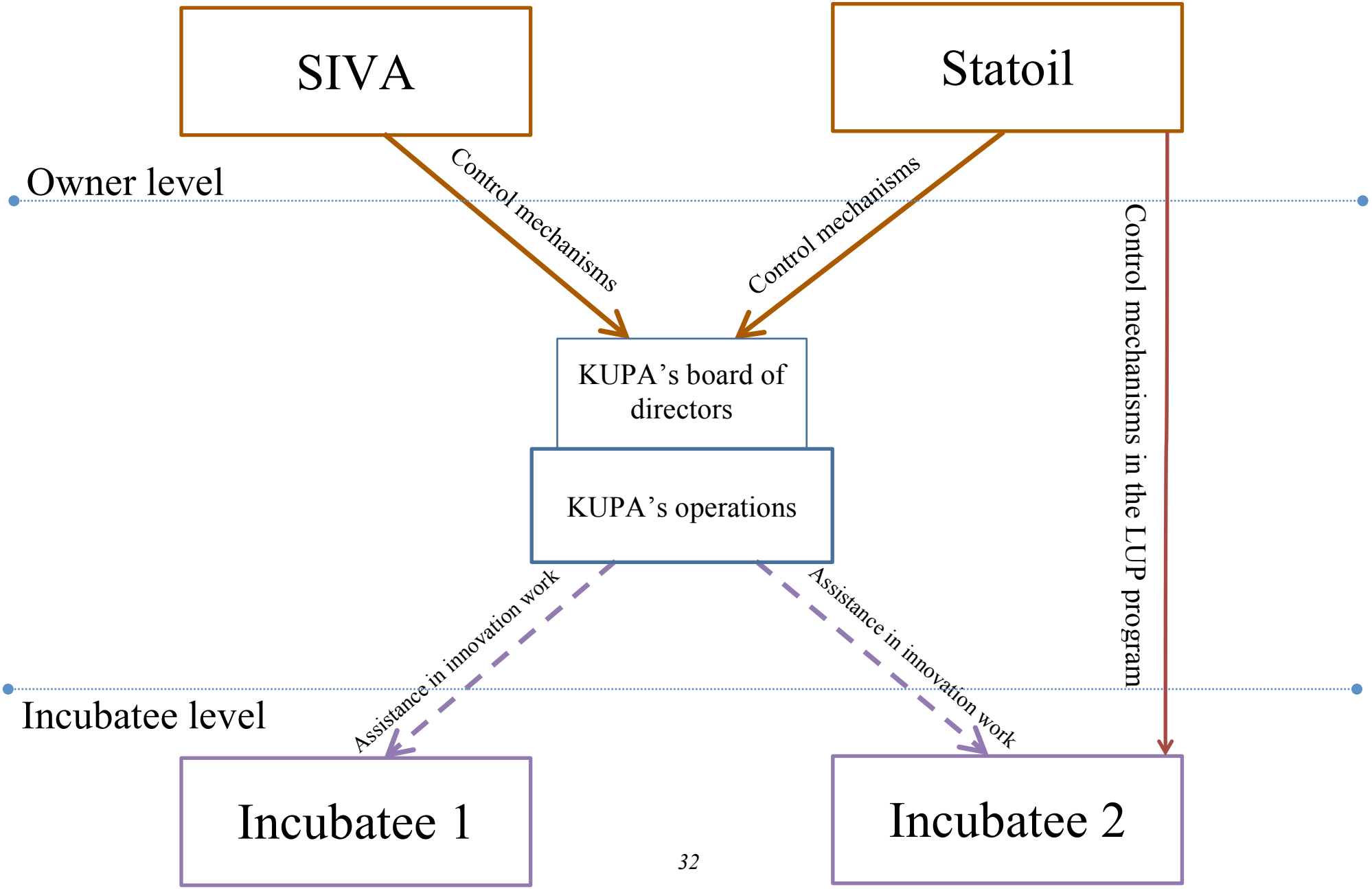
Since I am studying the effects of management control mechanisms in the context of a business incubator, it is important to establish an understanding of each of the actors connected to it. In order to do so, I will start off this chapter with describing the context of each the actors, e.g., their history, strategy, size or line of business. In addition I will also explain what role each actor plays in the inter-organizational relationships.

After having presented the actors' context I will present the design of some of the control mechanisms used both in the inter-organizational relations described in the previous context section, but also internally in some the organizations.

Finally the usage and mobilization of each of these control mechanisms will be presented. In this section as well as the previous one, both the internal and inter-organizational aspects of the mechanisms' usage will be covered. I will describe how the usage is perceived from each of the actors' point of view, which may differ slightly between actors, i.e., KUPA's perception of trust vis-à-vis Statoil, might not be the same as Statoil's perception of trust vis-à-vis KUPA.

4.1 The inter-organizational context of business incubation

Before I begin my presentation of the empirics, it is useful to see the relationships between the actors from an overview perspective. To help that understanding I have created the following figure, which I will refer back to several times later in the thesis:


SIVA
Statoil
Owner level
Control mechanisms
Control mechanisms
Control mechanisms in the LUP program
KUPA's board of directors
KUPA's operations
Assistance in innovation work
Assistance in innovation work
Incubatee level
Incubatee 1
Incubatee 2

In the figure I have tried to illustrate SIVA and Statoil as the two largest owners of the business incubator, together making up the majority of the equity in the organization. While those two are the biggest owners, they do not have a direct say in any decisions being made in the business incubator. The reason for this is that the incubator is organized as a corporation, and is thus subject to Norwegian stock company law. A consequence of this is that both SIVA and Statoil have their say in the operation of the incubator mainly through the board of directors. This is not to say that the incubator is self-sufficient. It is reliant on financial support from the various industrial partners.

The board of directors is in other words the formal vessel of control for both SIVA and Statoil. KUPA is led by its CEO, whom is responsible to the board of directors, and the development plans put forward by it. Continued failure to achieve the desired results might lead to termination of the financial support contract in place, which would in turn make the current level of operations in the incubator very challenging.

When it comes to the work of the incubator itself, we can see from the figure there are two incubatees connected by two lines called "Assistance in innovation work." The reason for this loose term is because the resources and competencies provided by KUPA in these two cases are quite different. Both of these organizations however have received important support from KUPA in one form or another. These lines suggest that there are both formal and informal controls in place between the incubator and the incubatees, but as we will see further in the analysis, there seems to be a low degree of formal controls between them.

Finally it is worth nothing that there is a solid line between Incubatee 2 and Statoil. The reason for this is that this particular company has been taken into Statoil's LUP[13] program. This program is designed to closely follow up on, and help finance, particularly promising technologies and companies. During my research I discovered that the mechanisms governing this relationship were quite different from the ones used by KUPA, and this did seem to have an effect on the innovation process.

Now that I have explained the mappings between the organizations, it is time to present the strategy of innovation through incubation:

[13] **L**everandør-**U**tviklings **P**rogram. This program is in the process of changing name to LOOP in case the reader wants to search for it online.

The strategy of innovation through incubation

While incubation in its most general form is about providing help with building businesses, building networks and raising capital *(Hackett and Dilts 2004)*, there are numerous configurations of incubators that serve different purposes. Currently there are 4 types of incubators that SIVA has ownership in[14], and even within these types there is a fairly large degree of freedom of action, as long as the incubator follows the wishes of the board of directors in which SIVA has appointed at least one representative.

KUPA's strategic configuration covers three main operation areas with business incubation being their main focus. These three operation areas are: *(1) Industry related business incubation, (2) open business incubator and finally, (3) youth programs.* Since (1) and (2) are the most directly related to innovations in new or already existing ventures (at least in the short term) I have focused on these areas.

In order to direct these three strategic focuses, KUPA has divided their goal areas in three strategy control areas: *(1) investments, (2) communications and finally (3) personnel and competency*. Asked about why there is a divide between the strategy control areas and operational areas the CEO answered:

> *"It's just a different way to look at the world. When I want to present ourselves to the outside world, they are not very interested in the capital part. They want to hear about the industry incubator, the independent incubator offerings and the focus on getting youths interested in technology and innovation. Access to capital is of course very important to us, but not so much for outsiders looking in."*

Summarized, the focus of KUPA lies in both mid- to long-term innovation work (incubation) and pure long-term efforts (focusing on getting youths interested in technology and innovation).

KUPAs goals and objectives are all tied to a 5 year perspective, due to the financing they receive from their industrial partners. This funding is based on a 5 year strategic plan which all of the industrial partners have agreed upon, and this plan is the schema from which KUPA's yearly working plan is devised. The working plan is tied to the three strategy control areas mentioned above (investments, communication and personnel and competence) and each area have several indicators for success.

[14] Food and nature, industry related, R&D and finally distributed incubators.

While these are the directives set forth by the board of directors, the path to realizing them is not at all straightforward. Innovation work is challenging due to its dynamic and unstable nature – it is not at all uncommon to throw away previous work which proved to be a red herring in the development process. This is something which KUPA have to take into account directly as some of the supported projects and businesses will be failures due to unsuccessful innovations, but in other cases it is the will to execute the ideas in the incubatees that is lacking. According to their CEO there are three critical factors for achieving success for the incubator and these are *(1) number of ideas created in the region, (2) the will to execute the idea by the founder or inventor, and finally (3) the competency, capital, and networks the incubator can provide.* While (1) and (2) are not directly related to the incubation efforts, they are crucial to the success of the incubator. Unfortunately for KUPA, this is outside of their control.

Next I will present the interdependence of KUPA vis-à-vis its owners and the financing they receive from them in order to perform their tasks.

Interdependence and financing

As mentioned in the theory chapter, the level of interdependence between organizations can have an impact on the types and levels of control in an organization and between organizations. When asked about the interdependence between KUPA, SIVA and Statoil the KUPA CEO answered:

> *"SIVA is put together as an organization that has certain tools at their disposal so that they can act at a national level. Statoil is Norway's biggest company, and the world's largest actor off-shore. Stating that their profile is dependent on our competency, that we are delivering competency to them, would not be correct. What I would definitely say, is that we can describe a different part of reality for them. That is something both SIVA and Statoil is relying on. Someone that knows what is going on out there, what cases are available, which idea-streams are present in our region."*

While KUPA is a free standing organization, it is dependent on external financing as is common for business incubators *(Hackett and Dilts 2004)*. This is both due to the high risk inherent in business incubation, but also due to the length of time it takes for successful incubatees to become profitable. Even profitable incubatees do not guarantee any direct pay-off for the incubator as there is no given that incubators owns any equity in the firms in question. KUPAs external financing is currently somewhere close to 40% of its total required running capital according to their CEO, making it a very important part of their day to day

business. The rest of KUPAs finances are covered by performing incubation services or working on external projects. When asked the question of whether or not all of their projects are relevant to the incubation work I received this answer:

> *"Yes, our core business is after all innovation. It is very important for us to work with for example youths in a long term perspective. That is important for an incubator and regional innovation in our opinion. Also in projects where we work in the intersection between the public and private sector it's apparent that we need intimate knowledge about what is going on in the field. Especially since petroleum gets much political attention. We believe and feel that all our activity is relevant directly or indirectly for innovation and incubation in the long term, but not all projects are directly related to incubation."*

This seems to be rather unique in the Norwegian context, as many Norwegian business incubators have been shown to struggle with keeping their project work relevant to innovation and entrepreneurship *(Clausen et al. 2011)*. When asked about this, the CEO said he was aware of their extraordinary financing:

> *"We are perhaps the incubator in Norway with the best resource availability when it comes to equity financing and engagement from our owners. Of course we feel that this is indeed fantastic. This is something we are very conscious about. I'm not 100% sure that we are the incubator with the strongest financial backing in Norway, but I do think we are."*

Difficulties in getting enough financing, and getting it in a stable or at least predictable manner, is believed to inhibit the level of innovation as makes it difficult to set long term plans and project milestones. When asked about what the effects on the innovation work were if financing was lacklustre or uncertain the CEO said:

> *"The principles behind our management control system would probably not be substantially changed, the pure mechanisms and procedures we use to maintain control, but our priorities would definitely change. And our ability to be part of larger development processes. We wouldn't be regional ... and we would probably be relying on doing more consulting oriented work."*

While it is perhaps obvious that lack a of resources could lead to lower levels of innovation support, it is interesting to note that the CEO expected that their management control systems would stay the same even if their work tasks would be substantially changed.

The role of the incubator from the two largest owners' perspective

As mentioned in the method chapter, Statoil is a giant energy corporation and the largest offshore oil and gas operator in the world. Thus, this part of their strategy is indeed a very small one compared to the totality of the organization. However Statoil does seem to have a very well developed organization for helping in developing suppliers in the oil and gas industry. KUPA is one of these efforts, and is seen as an important part in the effort of creating a strong oil and gas industry in Northern Norway. As part of their efforts, KUPA is considered an important partner, both as a regional front for Statoil, and also as a tool for helping both budding entrepreneurs but also well established companies that wish to become part of Statoil's supply chain.

While speaking with the industry coordinator of Statoil Harstad he placed great emphasis on the importance of KUPAs regional role. Since Statoil is a large and cumbersome organization it is difficult for them to reach the distant parts of the regions in Northern Norway. For this concern, the distributed incubator solution used by KUPA gives them both the opportunity to keep an eye out for what streams of innovation is currently taking place in the region as well as keeping a lower profile than if they went in full force. This disentanglement is important to Statoil as explained by the KUPA CEO:

> *"There are many local kings[15] in Northern Norway due to the nature of the region. Statoil doesn't want to get involved in local fights and disagreements. They want to keep a low profile and have someone else handle it and that's where we come in."*

As a conclusion to Statoil's strategy with KUPA it seems as they are using them both as a way of keeping a two way communication with the region – both for conveying the demands they place on suppliers, but also as a sensor for picking up the streams of innovation in the region.

Since Statoil is a very large and cumbersome organization, it is difficult for them to get close to every developing supplier, and as such they need someone that can be closer to the innovation milieus themselves. Here KUPA is important as they are more agile and flexible. One drawback of this according to several of the interview objects is that KUPA lacks technological competency related to the oil and gas industry. Even if this is the case, the same informants told me that the professional networks they provided somewhat made up for this drawback.

[15] In Norwegian: Nessekonger

While these networks are important, they are not the only form of assistance KUPA provides. Since KUPA have been working extensively with the supplier industry and Statoil they have know-how of the industry which were deemed to be important to pass on to actors that wanted to start working in the field. This is important to Statoil Harstad as it makes communication easier, as potential suppliers for them, or their sub-contractors, are better prepared for the stringent reporting requirements and certifications required to become a supplier.

The second largest owner of KUPA is SIVA. With industry incubation being the youngest of the two main incubation programs from SIVA (R&D incubation in connection to higher education institutes being the other), this program has had good success in establishing new companies as remarked by a recent governmental report *(Meld. St. 22 - Verktøy for vekst – om Innovasjon Norge og SIVA SF 2012, :92)*. On the other hand, one of the main strategic objectives for SIVA is to assist in regional development. This is an area in which the government seems to believe the goals where too much focused on the actual accomplishment of SIVAs tasks, and too little on their overall strategy.

SIVA's overall objective in regards to KUPA is to help establish new businesses, and help further develop existing ones in Northern Norway. In conjunction with starting KUPA, SIVA also started Pro Barents, a similarly structured industry incubator located in Hammerfest. This sister incubator is also tied to Statoil, as well as other industrial partners. Both KUPA and Pro Barents are focused on building rich and thriving supplier networks in their respective regions (KUPA in Nordland and most of Troms County, Pro Barents in Finnmark and a small part of Troms.)

While being an owner in, as well as a founder of, KUPA SIVA's role is not more pronounced than, e.g., Statoil in the operations of the incubator – perhaps it is even the other way around. Statoil and the other industrial partners provide technical support in development programs, specific know-how of the oil business in addition to being a potential customer for products or services which the incubatees may eventually produce. One might then ask the question: What does SIVA provide in this equation? The answer seems to be twofold: Competency in starting up and managing incubators (through their chair on the board of directors) as well as financial capital provided by the Ministry of Trade and Industry. While the benefits of the additional financial capital may seem obvious, it is more challenging to ascertain the advantages of their experience in running industry incubators. Regardless, they are the second largest owner in KUPA, and as such they have a large influence in the board of directors.

As we can see, SIVA is neither as directly involved with the innovation work done in the incubators themselves like Statoil Harstad, nor do they provide any additional concrete resources besides financial ones to the incubation process. This financial aid is however crucial for the operation of the incubator. While this might seem like a limited way of supporting the incubator, it is fully intentional as one of SIVA's primary philosophies in operating industry incubators is that *"SIVA must want it to happen, but the regional industry must want it much, much more"*. In other words, SIVA tries to initiate and helps maintain the industry incubators, but relies on local actors (such as the "mother company" mentioned in the context chapter) to be the main cooperation partner for the incubator itself.

The board of directors – the focal point controlling the incubator

Both KUPA and Statoil were adamant about the role of the board of directors in KUPA as the primary vessel for formal controls in the IOR. In other words, all formal controls used by Statoil vis-à-vis the incubator were deployed through the board of directors.

Using the board of directors as the primary channel for formal controls were done for two reasons: *(1) compliance with Norwegian law, and (2) making sure that all of the industry partners' interests where handled properly*. Since KUPA is a joint stock company they are required by Norwegian law to adhere to the wishes of the board of directors. Failing to do so could make the persons in charge of KUPA liable for potential financial loss of the owners. More importantly for my study, the board of directors is the only channel where all of the industrial partners can come together in a forum and discuss the future of the incubator, its strategy and financing.

While the board of directors were considered to be the primary receiver of formal control data, I did found evidence of required formal reporting from KUPA to Statoil directly. However this reporting were only done in order to comply with Norwegian laws. Since Statoil has a large ownership position in KUPA they are considered an associated company according to Norwegian stock company laws, and must therefore report accounting data to Statoil directly according to KUPA's CEO:

> *"Since we are an associated company[16] with Statoil, we make a small annual report every month. This is heavily regulated. The 5th of every month all documentation has to be delivered to the accounting office. The report to Statoil has to be delivered by the 15th of the next month."*

[16] In Norwegian: tilknyttet selskap

While this was the case, the accounting data did not seem to be used by Statoil in any form as the industry coordinator was not even aware of its existence. Neither was this data used by the board of directors in any way, as expressed by KUPA's CEO:

> *"Statoil is a listed stock company, so there are quite a few reporting requirements, some of which are for associated companies. After all they own 37% of our equity. I'm quite certain that these reports are never used actively by Statoil, and I know for sure that our board of directors doesn't use any of these reports."*

SIVA did also require formal reporting directly from KUPA, but also this reporting seemed to be of an auxiliary nature and was not used for any direct control as illustrated by the CEO of KUPA:

> *"When it comes to formal reporting requirements for SIVA, there are some reports that have to be made to confirm to EU-regulations. That's something we regard as.. <short pause> It's not reporting that is tied to any of our goals or achievements. It's more about how we spend our money, and where do they go. It's about tracing of resources, and not our achievements. What the EU cares about is whether or not we use too much money. We try to answer them as best as we can. It's not a form of reporting that gives us any energy or enthusiasm to put it that way…"*

As we can see, reporting to other sources than the board of directors did not seem to be of any great importance, but still something which has to be done by the incubator in order to stay in compliance with laws and regulations. However, the CEO of KUPA did mention that while these requirements were not actively used in any form of control they did have a disciplining effect on the incubator because it forced them into becoming better at documenting resource usage and more conscious about how they performed their job.

In addition to being the focal point of formal control in the organization, the CEO of KUPA also placed emphasis on the industrial partners' contributions to the organization through the board. As mentioned previously, the industrial partners (Statoil, SIVA, Total E&P and Bergen Group) give financial backing, but they also provide valuable networks and competency for the incubatee projects if necessary.

Next I introduce the two incubatees in my case, and how they relate to the context:

Incubatee 1: The well-established electric engine expert

Incubatee 1 is a well-established actor in the electronic engine market in Norway and has a long tradition in the Harstad region spanning back to 1951 when they were first established.

Being the first business in Northern Norway certified by the ISO 9001-standard[17], they are driven by high standards in quality management and therefore place great emphasis on process control and improvement. Lately they have also been working on getting into the business of real time monitoring of electrical engines and systems installed at their customers' facilities, which is somewhat of a risky project according to their service manager.

Being a certified ABB[18] service workshop they already have a strong footing in the region, but they have further ambitions of growth:

> *"Our ambition is to continue to be one of Northern Norway's leading suppliers in electric-rotating machines. We have growth potential and a will to grow. We want larger parts of the market. What's interesting for us right now is the off-shore oil and gas industry. We have initiated a range of processes to get a foothold in the industry, but today we are too small at only 13 employees. When the oil industry seeks a partner, 13 employees are too few. We are too vulnerable to their liking. They want all their bases secured."*

As we can see, they are aiming to become part of the growing pool of suppliers for the oil and gas industry in Northern Norway. The day I visited them for our interview, they were being inspected by Siemens as a step on the road in becoming a certified Siemens service workshop. This was needed in order to be able to work off-shore with Shell.

Knowing that they are too small in order to provide the products and services the oil and gas industry need, they are trying to initiate alliances with other companies to position themselves. This is something KUPA is able to assist them with. Currently they have gathered experience working off-shore in power of their partners such as ABB, but they need more formal competency and experience to be able to take the plunge and become a subcontractor themselves. This process is risky and costly according to their service manager:

> *"It's a long way to go, but I'm sure we'll get there. These processes takes up a lot of resources and cost a lot of money, but we have decided to become part of the oil and gas industry, and to be able to do so, we have to listen to their demands. And follow them."*

[17] This certification shows that your quality management system is of a high standard. For more information, see http://www.dnvba.com/no/sertifisering/systemsertifisering/Kvalitet/Pages/ISO-9001.aspx (20 April. 2012)

[18] ABB is an international company focusing on designing and producing all kinds of power related products and services spanning from low-voltage ventilation systems to high power transformers and control systems. They also produce and adapt a wide range of process automation systems.

Incubatee 2: The technology focused start-up

As mentioned in the method chapter, Incubatee 2 is a relatively new company who is trying to develop and sell a product directly to Statoil. Currently having only a handful of employees, it is a small operation but it does not lack industry experience. Combined the three owners have more than 60 years of experience in the both the business and engineering side of the oil and gas industry. All of them have worked directly in Statoil for a number of years, something which gives them an edge compared to other companies which lack understanding of how the industry works. With their combined experience and expertise, they intend to create several new products, with Scale Alarm being the most prominent one. This technology is supposed the help monitor and thus hinder the deposition of scale, which is a form of crystallization which can form inside of oil pipelines. Left unmanaged, this build-up reduces the flow area and limits the flow rate of oil, thus reducing the efficiency of its extraction. If Scale Protection succeeds in their product development, they will be able to sell their invention to companies such as Statoil who in turn can use it to increase production in both existing and new wells.

Having received assistance from the incubator in the start-up phase, the company is now established and is working on developing their technology. They are also, as mentioned in the introduction of the empirics chapter, part of Statoil's LUP program as I have attempted to illustrate in *Figure 2, p.32*. This gives them extra resources in order to hasten their development work, but it also places extra reporting demands and control restraints on their operation. As we will see later in this chapter, this bears consequences for the incubatee and the development work they do.

While KUPA's role is diminishing for Incubatee 2 as the company is growing and becoming able to stand on their own, they have been crucial for the successful start-up of the firm according to their founder. As of today, KUPA is planning on taking stock in the incubatee and become a part of their board of directors. This is both because KUPA is of the opinion that the firm will become more successful in the future, but also because a chair on the board of directors will enable them to further help the direction of the company through their networks and their competency in business processes.

Now that the specific context of the business incubator has been presented it is time to present the design of the management control mechanisms.

4.2 Management control design

In this section I will present my findings from my study of the management control design in the IOR. Both interviews and my brief document study lent itself to this section of the empirical chapter. Like in the theory chapter, I will start with outcome based controls:

Outcome based controls

Outcome controls in the relationships between KUPA vis-à-vis incubatees (from the middle to the lower level in *Figure 2, p. 32*) were not considered important nor useful. This was due to the complexity in determining the likelihood of success of incubatees, but also because the project leaders themselves *"might have to take on jobs that have a high likelihood to fail, but are still crucially important."* (KUPA's CEO) As such outcome controls could hinder the project leaders in performing tasks that were in the best long term interest for the incubators and its stakeholders. The same observations were made in relation to Statoil Harstad's take on the effects of outcome based controls in regards to innovation work both in their own projects, but also for businesses in incubators.

The CEO of KUPA also emphasized the uncertainty of the incubator's impact of the incubatee success:

> *"I might sound old school, but I think these processes are very important, and, maybe not all project leaders are in agreement with me on this, but basically we are here to make sure others succeed. We will often come in a position where we can't really tell why they succeeded. How important were we really?"*

Here we can see that KUPA could not even be sure what effect their work had on the innovation work on a per-project basis. This was also one of the reasons why they did not rely on outcome based controls – without the possibility to measure the additional effects they brought into the innovation process, outcome based controls were considered to be imprecise.

Outcome based controls are often tied to incentives and their motivational effect. When asked whether or not they feared a lack of incentives could lead to a lack of motivation the CEO admitted that this might have been the case, but instead of using outcome based controls for creating motivation, he instead focused on hiring project leaders that were passionate about entrepreneurship and innovation, as well as being able to motivate themselves. The ability to motivate themselves went hand in hand with the great freedoms project leaders have in doing their work, and together with the trust placed in them they appeared to be the main method of

control of the inner workings of the incubator. This trust seemed to be funded on a subjective measurement of the personal traits of the potential employee according to the CEO:

> *"Well, first of all it is very important when I hire new employees that I get an impression of them according to the values we have: credibility, inclusive, innovative and enthusiastic[19]. With a very strong emphasis on the C.. In our field there are a great deal of charlatans and many empty barrels. We have to keep those away. This dimension is difficult to control, and that makes the personal aspect important."*

All in all we can see that outcome based controls were not important internally in KUPA. The reasons for this was primarily due to the changing nature of innovation work, the difficulties in judging the additional positive effects KUPA gave to the incubatees. As for the possible lack of incentives, it seemed like other forms of social control were used as substitutes.

The sentiment of innovation work as too dynamic for outcome based controls was found in the design of the owners towards KUPA as well according to both their CEO and the industry coordinator of Statoil. Statoil's representative also raised concern about the state of the finished product – a too heavy focus on pushing the innovation process forward could make quality suffer. Taking one step back and two forwards was still considered success, and forcing the incubatees to only walk forward was one way to hamper the innovation process. The final goal of success was considered as the only really necessary outcome that an incubatee should steer towards.

When asking SIVA's representative about the role of the outcome based controls in usage by them vis-à-vis KUPA, I got the answer that there were currently no form of outcome based control mechanisms in use. However, according to her this was not due to the inherent difficulties in measuring performance of incubators, but rather because of a lack of tradition. The incubator programs go through set time periods before they are evaluated and potentially adjusted, and the latest adjustment will occur this year (2012.) One of the proposed changes from SIVA is to implement a form of outcome based control vis-à-vis the incubators:

> *"As of today we have not been operating with bonuses or similar in regards to the results the incubators achieve. The only control we have is the financial support they receive if they qualify for the incubator program. We have discussed this and suggested to implement some changes in regards to this in the new program. In it we have suggested changes which would benefit the incubators which produced the most, creates the most*

[19] In Norwegian: Troverdig, inkluderende, nyskapende og entusiastisk

amount of new businesses, in form of a bonus. As of yet we haven't received a go-ahead signal from the Ministries, but we are working on it."

This stands in contrast to what the CEO of KUPA and Statoil's representative believed. Their reasoning was that difficult, but necessary tasks can be considered unimportant if the success of incubators is judged by the amount of companies and projects they were able to help start up. In other words: companies that would be successful regardless of the incubator's involvement would be preferred as they would be considered just as much a success as a company which would not have made it without the incubator's help. When asked if SIVA could see any possible negative effects with their line of reasoning I got the following answer:

"I have difficulties in visualizing what the negative effects could be, but maybe incubators that are located in areas that have less access to idea might feel that they won't be able to match the new bonus arrangements.. That is something which might be negative for them, but it's not going to be as if they won't be able to get by without the bonus. It's more of a carrot for those that perform very well."

This realization does not include the difficulties which Statoil and KUPA meant were inherent to outcome based controls in the context of an incubator. On the other hand my respondent said that:

"We believe there should be competition in this area as well. That those that are the most skilled and gets stuff done, those that are good at getting the best ideas, are rewarded appropriately. We believe that will enable the instinct for competition in the other incubators as well. That's how we humans are."

It is useful to keep in mind that neither KUPA nor my representative from Statoil have to make sure that the incubators are performing well on a cumulative basis. KUPA focus on their own incubator, while Statoil's representative only has to deal with two incubators (KUPA and Pro Barents.) SIVA on the other hand needs tools to manage all incubators in Norway. This might be way they would prefer more aggregated forms of measurement and control.

Next I will present my findings of the design of behaviour based controls in my case.

Behaviour based controls

While the required formal reporting requirements from both Statoil and SIVA could directly be part of a formal control mechanism, I have chosen not to include them in this discussion as it was clear that they were not being used for control. They appeared to me mere requirements due to laws and regulations as mentioned earlier.

I observed several forms of behavioural based controls in the IOR between KUPA vis-à-vis the owner and incubatee level (that would be the top and bottom layer in *Figure 2, p. 32*.) Most notable was KUPA's working plan document which was directly derived from their strategy plans. These plans are based on a five year financing agreement in which the four industry partners enter with a substantial amount of the required capital for the incubator (for a deeper explanation see *"Interdependence and financing"*, p.*35*.) The efforts in creating the working plans were expressed by KUPA's CEO:

> *"When this [the working plan document] is approved in December we perform concrete employee meetings with all of the project leaders in mid-January and in the second half of August. During these talks we go through all projects, quantify hours spent on each task, and try to make sure that all prioritized measures are reflected in one of the working plans of at least one of the employees. All of them are distributed by quantified time spent on each task. Every single employee has a working plan with projects and measures which you'll find in the working plan document, which you'll find in the strategy plan. So the distance between strategy to operations is shorter. The distance between strategy and operations is something which all organizations struggle with. In practice we try to make a short, unbroken line between the main objectives to the actual operations. This way I and our employees can make sure that every prioritized measure in the working plan document is being worked on and attempted realized."*

This planning seemed to be very detailed and made up the backbone of the connection between the wishes of the board of directors and the actual work done by the organization. Making this gap as small as possible was of prime importance. While this planning had an important role in translating the wishes of the owners of the incubator into actions, planning was also important on the level of the incubation projects themselves. On this level however, there were certain problems which arose due to the nature of the incubation work according to the CEO of KUPA:

> *"First of all, good planning and good follow up will have a positive effect on prioritizing the important tasks before the less important ones, making them a tool for project leaders in advancing their project. So good planning and good follow up is completely necessary for us. The negative aspect is that the processes that we are part of don't necessarily have any control on the progress. It, the decision to move forward, can be up to the founders or in an already established firm. There the day-to-day minutiae can take hold of the leaders of the organization and the power to execute actions in the innovation process*

disappears. Then we become lame ducks. That's one of the reasons why I can't become a structure-fascist – I have to realize that some projects won't move as quickly as planned and adjust our plans accordingly. If there are many delays over time, we will reconsider if the project should be allowed to live. The negative aspect of action controls is that you have to understand the reality you are living in. Therefore the balance between having a focus on execution and a focus on important measures and continue working on them, but at the same time realizing that some processes won't move as quickly as one might have hoped."

Here we can see that even though behavioural based controls such as planning are integral to the way the incubator is run, there are several weaknesses to this approach and they have to be taken into consideration when working with organizations doing innovation work. This was demonstrated by the low level of formal controls vis-à-vis both of the incubatees. Rather than relying on formal control types, close personal contact and social controls were preferred instead.

While planning was difficult, it was completely necessary in order to create legitimacy to their external environment. There can be many reasons to plan, such as planning by time or progress, but in this case resource usage in the form of financial capital seemed very important. Without planning one could lose legitimacy as perceived by important actors surrounding the incubatees as stated by KUPA's CEO:

"Having a conscious relationship in regards to what a development process costs, having a good estimate for it, and working on getting enough resources is completely vital. And then you have to do control by those estimates. This is not easy. We have many examples of progress halting, subsequent increases in costs and then failures… So, in my opinion, if you think that management control is not important for the innovation process you should try to carry out an innovation project without having control on the financial situation. One has to understand that estimating resource usage in innovation projects, especially if they are new firms, is excruciatingly difficult. The exception, rather than the rule, is that you won't need additional financing. A sudden need for capital must not come as a surprise or as a shock. Then you are already in crisis management territory … You have to realize that management control in an innovation process is very difficult, and that doing innovation is very costly. Many don't realize those facts, and that leads to a wear, a wear on the relationship to your bank, on your relationship to your investors. If you have

to go to them and say that you need more resources right away, and three months later it's the same song all over again, you have a problem…"

Here we can see that planning in innovation work carries a different connotation as well – a lack of it can lead to a decrease in legitimacy towards external actors whom can be essential for the development process. This worry of lack of legitimacy is something which we will encounter later in the case of Incubatee 2 as well.

Another form of behavioural controls is procedures. In my case the most prominent procedure seemed to be the selection process through which incubatees have to be subjected to. While this process was very challenging both due to the amount of resources it takes, but also because there was the potential of throwing out the baby with the bath-water as illustrated by the CEO:

"We have just been out in 60 organizations. 8-10 of them were very interesting, and the whole foray yielded 4-5 projects. Some ideas were good, but we felt we didn't have anything to contribute. We ended up with a few projects we think are sustainable. It's a high risk sport, since we can throw the baby out with the bath water at times, but at the same time it's completely necessary. We have a limited amount of resources in both money and time. We're also worried that our free-of-charge model[20] attracts companies that aren't as serious as they should be. That's something which we have to look out for."

As with the planning, the procedure controls have to be treated in a careful manner, as there can be potential problems if there is a lack of flexibility on KUPA's part. In this case this could lead to both good ideas not getting through the selection process into the incubator, but also bad ideas that should have been thrown out getting in.

From the data gathered about formal controls we can see that there are several way in which KUPA uses formal control mechanisms both internally but also towards potential and existing incubatees. These controls were considered by their CEO to be very important, but he also warned that they could easily be destructive if not used wisely, something which I will come back to in the following chapters when presenting my findings related to how trust affected the formal mechanisms, as well as in the chapter on mobilization.

While Statoil Harstad normally does not perform any direct behaviour control over incubatees (see the introduction of chapter *"The board of directors – the focal point controlling the*

[20] Existing businesses that come into the incubator gets 50-75 hours of free project consulting for helping their ideas to grow.

incubator", p. 39) selected companies from the incubator might be included in Statoil's development programs. These companies are selected in an early phase, and they have to be developing technology of particular interest to Statoil. If they are brought into the fold of Statoil, for example through the LUP program, a much more stringent reporting routine is enforced. According to the industry coordinator they will be put through "*a very tough reporting schedule on a monthly basis*", and has to sign a far reaching contract in accordance to Statoil's procurement systems.

When asked about how this might influence the innovation work he had both positive and negative experiences. First it seems like the reporting could be overwhelming for the companies that did not have any previous experience in working with the oil and gas industry. The demands for being a supplier are very strict in Norway, and even stricter in the EU. Small companies such as the ones trying to adopt into a niche market in the supply industry is faced by a very bureaucratic system which can be too heavily focused on pure management control through strict project reporting, complex contracts and specifications. The industry coordinator expressed concern that this myriad of formal controls could be too much for a firm that was having enough problems trying to deal with getting a product or process to work. Especially smaller firms that did not have their own department that could take care of these requirements were vulnerable to these formal controls.

While this is certainly a possible negative side effect of the stringent reporting and planning it also seemed like there were positive effects as well, such as an increased level of discipline and perhaps most important of all – preparations of the coming life as a potential business in the oil and gas industry. This industry is heavily regulated and characterized by a very high level of formal requirements both from the state, but also from suppliers and the operators themselves. When confronted with the notion that this form of management control is not connected to the innovation work the industry coordinator said:

> *"... sooner or later, when the innovation is maturing, you are entering a commercial phase and then economics is, unfortunately, a very important factor. In addition you have to get the product to market, and on the other side of the table there is a customer doing cost-benefit evaluations. Then you have to have been thinking about management control the whole way. Even for a simple thing as getting a fair price for your product or service."*

It seems like his opinion was that controls and accounting were in addition to coordination also a way of ensuring a smooth transition from the highly technical innovative phase into a

more commercial phase. If the systems of control and monitoring were not in place beforehand there would be difficulties trying to adapt when they were faced with the day-to-day realities of the industry.

For SIVA, as with Statoil, planning and subsequent follow-ups through the board of directors appeared to be the de-facto modes of control vis-à-vis the incubator. Follow-ups on plans were done through board of director meetings every other month, as well as during a grand yearly meeting. In addition, EU regulations demand that SIVA receives reports from the incubator on a yearly basis. These reports show where SIVA's governmental funds are being spent, but they also include information about the general progress of the incubator. When asked why they are using this form of reporting I got the following reply:

> *"We are dependent on showing to the Ministries the results we are able to achieve through the usage of state sponsored financial support to this kind of activity. Of course it's important for them to be able to see that. And it's also the rules through the EU-regulations about usage of governmental financial assets."*

In other words, the incubator has to report on their results every other month during the board meetings on both accounting based, but also on general progress in various projects. In addition they created yearly EU-reports for SIVA for use by the Ministry of Trade and Industry. The reasons for doing so seems to be tied to showing progress (such as number of incubatees established), as well as expenditures.

As planning as a form of behavioural control were important, I also asked about the consequences for not being able to follow the plan set forth. I got the following answer:

> *"If [incubators] are not able to produce, we have to put forth measures. We maybe have 1 or 2 examples where SIVA has given final warnings with threat of termination if levels of production weren't increased. We have to have those demands as we can't waste the government's resources in a system that isn't fulfilling its tasks.. It's rare that this happens though, because we have a very thorough preliminary project before we start the program. Through it we uncover the will and commitment to go through with the program of this nature. This way we know that we all want to achieve the same goals. Of course, there are some occurrences when this does not happen, but it's not frequent. It may happen when management in the incubators are changed."*

Here we can see that for SIVA the preplanning stage of the project initiation is very important to ascertain that the goals of SIVA, the leadership of the incubator and the other industrial

partners are the same. This can be tied to the words from SIVA's representative: "*SIVA must want it to happen, but the regional industry must want it much, much more.*" Again partner selection as a form of control is demonstrated.

As for Incubatee 1, there was little formal management control enforced on them from the outside. However it was interesting to see the importance placed on formal controls and their influence on innovation on the internal level of the organization. Incubatee 1 being a highly process focused organization had routines for every job down to minute details. This was necessary both for quality requirements, but also for safety reasons. As illustrated in the literature review this might become an obstacle for innovation as innovation work is often seen as dynamic and flexible, and strict formal controls in the form of e.g., planning, budgets or stringent process requirements, are considered to be un-dynamic, inflexible and leaves little room for imagination. In this case, this argument does not have any merit, as the formal controls in the form of monitoring systems laid a very strong foundation for corporate entrepreneurship[21], in the form of process innovation. The reason for this is that the data from was not only used to remove discrepancies, but also as a way of understanding the strengths and weaknesses of *both* their production *and* their products. New potential process improvements were compartmentalized, making new configuration easier. Project debriefings made it possible to improve after each project, laying the groundwork for new process innovations. In this case the formal management control mechanisms did not decrease flexibility as much as moderate future actions. Instead of inhibiting the flow of new ideas, the mechanisms were coupled with innovation in order to give a reference in which innovation could occur.

Like with Incubatee 1, there were very little formal control put in place directly by KUPA itself on Incubatee 2, but unlike Incubatee 1, this organization is young and inexperienced in regards to being an industry company. As such, they had little formal internal management control, and neither did they have much use for them as all of their products where on an experimental basis. This is not to say that no formal controls where imposed on them, quite the contrary. As a member of the LUP program in Statoil, they faced rigorous reporting requirements on several levels in order to receive financial development and technological support from Statoil. While this program has three separate sources of financing (33 % comes from Statoil, 33 % from Innovation Norway, and 33 % from the incubatees themselves),

[21] *"Corporate entrepreneurship is the process whereby an individual or a group of individuals in association with existing organization, create a new organization* ***or instigate renewal or innovation within that organization.****"* (Sharma et al. 2007) (emphasis mine)

Statoil is responsible for the program and the reporting required. When becoming part of the LUP program the incubatee had to sign a two year contract with Statoil in which they agreed to the these requirements.

When asked what these reports contained I got the following answer:

> *"We don't really have that much experience with it yet, but it's written in the contract that we have to say something in regards to the development progress based on the plan we got the contract on. And of course, we have to give a detailed description of what we used the money for. After all, they pay a third of it. We have to deliver timesheets as part of our input is hours spent. On the other hand, there is a great deal of freedom in regards to what we report as our development results. It's natural that you say something about the circumstances, and not just about the concrete progress. Not just about the point in time you're in, but what you have found out in regards to development. This is after all development work. It's not about painting a wall. You have think and reflect after having painted the wall. Was it as expected? Is it a good result? Do we have to adjust our heading? Do have even have to stop for a while? Even that might happen in a development project."*

This is in tune with what the industry coordinator in Statoil pointed out, when he said that these kinds of development projects are shifting in nature, and are therefore difficult to control on the innovation level. Even if this is the case, Statoil does see the need to perform control on the level regarding the amount of resources spent on development. Having this in mind it is important to note that Statoil's industry incubator did remark that time spent in development were inferior to the quality of the end product, something which fits would fit the founders' desired to focus on the engineering and make a product which is as good as possible.

When asked about potential effects from these control measures on the innovation work, I discovered two ways in which the founder of Incubatee 2 thought formal controls could affect the innovation process. First of all there was the forcing of discipline. While this effect was not as prominent as the second effect it was still present:

> *"[the formal controls are disciplining] not to a large degree, but the effect is there. The economic aspects of our reporting is certainly a driver to keep track of the business side of things so that it doesn't add up over time. Every quarter we have to present a thorough overview over what we have spent resources on, and how they lay of the land is. I think that helps us. When it comes to results and progress, it's maybe the same thing. It helps*

us become more aware of the plans we have laid out before us. We become more conscious about our progress."

This too is in line with what both the CEO of KUPA and the industry coordinator in Statoil expressed when they talked about building trust with potential stakeholders – being transparent and pre-emptive when it comes to problems of financial nature is important, as it can help shield the incubatees from quarrels with their financial backers.

Trust's role for control and innovation

Just as we will see with all the other actors, trust seemed to be of utmost importance for KUPA both internally in the organization but also in the inter-organizational relationships. Due to the instability inherent in innovation work (as we saw examples of in the previous two sub-chapters), trust from the board of directors is necessary because measurements of success and progress can vary greatly independently of the actual efforts of the incubator. This was illustrated by the following statement from the CEO when asked about the importance of trust between KUPA and their owners:

"It [trust] is completely crucial for us in order to be able to obtain the necessary degrees of freedom we need. One cannot adopt a reality. The strategy plans are just an attempt to make priorities, and trust is the how they allow us to make the best out of those priorities. I feel that we, both me as a person, but also the organization, have trust from our owners. That's a type of trust that is alpha and omega. There is another type of trust, and that is the trust between us and our potential clients. That's a form of trust that is dependent on our project leaders, and is the type of trust that will give us business partners. It makes sure that skilled partners will choose us, and that is also very important."

As emphasized earlier, most of the formal control of KUPA from Statoil's point of view was directed through the board of directors, but when it came to informal controls this did not seem to be the case. It is important to note however that this control was not designed to direct the actions of the incubator itself, but rather as a means to help the innovation processes along by sharing expertise and experience.

As all interaction with KUPA by incubatees is voluntary trust is necessary in order to get clients into the incubator. The incubatees often have limited resources but valuable ideas, and therefore trust is crucial so that they do not fear that their innovations might get stolen, information might get leaked and so on.

The CEO was adamant about the importance of trust as a foundation for innovation work, and the way trust could not be adopted or planned, only earned:

> *"I think trust works as a foundation, just like in a building. Trust and credibility is in a way a prime condition for an innovation project. If the trust lacks or sways, getting new ideas to the incubator is out of the question. One can adopt neither trust nor credibility. You can only deserve it. If you visualise a success pyramid that consists of competency, execution power and those elements, trust is the foundations."*

While this statement is in relation to innovation work in particular, trust also seemed to have an impact on the formal controls and their relationship with innovation work. When asked if the formal controls could be strengthened by a high level of trust or weakened by low levels of trusts, the CEO agreed:

> *"Of course, and at the same time one can't incorporate trust into a formal mechanism. That way the effects on both the formal mechanisms and plans could be distorted if trust issues arose."*

In other words, the CEO argued that a decoupling between the formal controls and trust were in order. When asked if he believed that trust could indeed get in the way of formal control mechanisms if one were not careful he answered:

> *"If trust becomes too strong one can be blind to signs of weakness. On a theoretical level it could be that way, but in practice trust has to be considered in relation to how you handle and deal with rejections, how you communicate them, but also how you chose to step into challenges. If I can transform the premise of the question, I would say that there is little doubt that the relation between the projects and the project leaders can be to close. One can't see signs of danger or weaknesses well enough. That is very important to keep in mind, because we as an incubator have to get close to the incubatees, have to get under their skin, but that can make us blind to weaknesses. The way we try to compensate for this is by trying to tie more than one person to every project. When we deal with new incubatees, there is an admission committee which consists of members from both Harstad and Narvik. It's not the person normally responsible for the operations of the incubator … It's all in order to avoid getting too close to these processes."*

Here we can see that trust can in fact be dangerous according to the CEO, even if it is also crucially important. Having good judgement and being at an arm's length distance were considered to be very important. While this is not normally something an incubator gets credit

for, it does seem like it can be an arbiter of good judgement on behalf of incubatees in my case.

While this trust could not be adopted or mandated by KUPA, the hiring process of new employees did seem to be important in this regard as personal characteristics were considered to be important for the success of project leaders. This form of social control through the hiring process was mentioned two sub-chapters ago as a conscious way to compensate for the lack of outcome based incentive systems. However, the hiring process was concerned with having the employees aligned with the core values in the organization as to give an easier foundation for trust.

While trust in the relationship of Statoil vis-à-vis KUPA seemed to be signified by a great deal of inter-personal trust, and were based on close contact both through the board but also through the actual incubation work, the trust between SIVA vis-à-vis KUPA seemed to be characterized by formality and distance. This is not to say that trust appeared to play a less significant role; quite the contrary according to my informant. When asked why trust was deemed as "*immensely important*" by SIVA I received the same answer as I got from both KUPA and Statoil: Founders are vulnerable and need to feel that those supposed to help them are actually on their side and understand their problems. As with Statoil, trust seemed to be necessary in order to draw potential incubatees to them, and also keep them feeling secure in that their inventions were safe.

It may see like the trust between SIVA and KUPA is founded upon the formal procedures and processes that take place through the board. This is in stark contrast to the more informal trust between KUPA and Statoil which were characterized by informal communication on the operational level. While all actors placed emphasis on that trust were built over time, the basis for building it were different among the two industrial partners.

When I asked the representative from Statoil about trust's role in innovation work and management control it was described as "*greasing the system*" for cooperation between the actors, both on the level of the businesses themselves, but also on the level of the incubator. In addition trust's role as a protection against secrets being leaked was considered to be very important.

For businesses that were either in the incubator and had close relations to Statoil, or those that had been picked for their other programs, Statoil's trust seemed to be tied to the freedom the businesses were offered in the innovation process. As illustrated several times in the thesis,

the innovation process is not linear and can often be chaotic and shifting[22]. As discussed in chapter *"Behaviour based controls", p. 45*, companies who are part of Statoil's own development programs are subject to stringent reporting requirements. Even if this was the case they left plenty of room for renegotiations and according to Statoil Harstad's industry coordinator. Subsequently, this would be impossible to maintain unless there was a high level of trust between the actors. This made trust a prerequisite for the formal controls, as they could in theory be subject to manipulation by participants in the program in way which could be very difficult to expose. Trust was considered a *required* feature of the relationship. This was also the case for the other side of the story – Incubatee 2, but for different reasons.

In addition to being a prerequisite for the renegotiations of the premises of the innovation, trust was also important in that it made it possible to have an easy flow of communication between the different actors. Perhaps the most notable of this was tied to the appropriation of resources. If there was a low level of trust between the partners, the companies in the program could be tempted to hide failing progress and increased resource usage. This in turn could lead to sudden surprises when they ran out of liquid assets leading to even lower levels of trust. Statoil tried to prevent scenarios such as these by having kick-off meetings were they assured the newcomers that the consequences of exceeding their program budgets were not as severe as one might expect. This "outer leeway", as the industry coordinator termed it, was fully built on trust. If seen in the context of the shifting nature of innovation work, this leeway seemed to be very important as it ensured that the cooperation was still able to function even when the "inner leeway" (the formal domain) was exceeded. In this regard trust acted as a fundament and a safety net when things did not go according to plan.

An important part of building trust in this relationship seemed to be characterized by the similar history of the actors in the cooperation. Since they all had technological backgrounds, they understood the difficulties in engineering new solutions, or improving upon existing ones.

While Incubatee 1 has yet to establish a partnership with Statoil, they have used KUPA as an important cooperation partner in their work to position themselves for and entry into the oil and gas industry. In this relation KUPA seems to come in as an actor that has competencies and resources that Incubatee 1 lack, much in the same fashion as the traditional incubator which provides resources such as networks and competencies in business processes. As

[22] As all actors mentioned, the innovation process were characterized by taking two steps forwards and one backwards.

mentioned in the previous sub-chapter, formal controls were substituted by trust in this relationship. When asked about how this trust between the KUPA and Incubatee 1 influenced the innovation work it was obvious that without it there could be no real cooperation between the actors at all. This can be attributed to the fact that KUPA is in practice helping Incubatee 1 in overcoming their weaknesses and enabling them to achieve their strategies. If KUPA were to be careless or reckless with information it got from Incubatee 1 it could have disastrous results for them.

The trust seemed to be built primarily on the capabilities they could bring to the cooperation, with professionalism as an underlying characteristic of the whole transaction unlike the KUPA and Statoil cooperation, where trust was based on goodwill and capability trust. This is not strange however, when one considers that the contact KUPA has with these incubatees are usually much shorter in time. While the cooperation with Statoil has been lasting for years, and will be lasting for years to come if KUPA can achieve their goals, the cooperation with incubatees typically only stretches from the start of the incubation period and until the business either closes or is considered to be able to handle themselves. This in turn does not leave much room for building trust through long term cooperation, thus relational trust may not be able to form properly.

Trust in KUPA also seemed to play an important role for Incubatee 2. The only formal control that seemed to be in place was an evaluation procedure which took place twice a year. Even if this was the case, this procedure seemed to be mostly related to how they planned their resource allocation internally, and not so much in relation to controlling the incubatee in question. This distinction was expressed by both the CEO of KUPA and the founder of Incubatee 2. On the other hand, trust did seem to play an important role in this relationship, just as with Incubatee 1. Statoil seemed to rely on formal reporting and rule-bound communication, while KUPA on the other hand preferred to be in close and personal contact with the founder of Incubatee 2:

> *"Our relationship with Statoil is characterized by distance. I can call KUPA if I'm in distress, and I can get direct advice from [the CEO of KUPA] or [Incubatee 2's project leader] or someone else at KUPA. That's something which I definitely can't do with Statoil.. With them, it's about writing reports, writing a formal email, and getting a formal reply. So their contribution to our innovation work is much more.. They only support is with financial means. That's it. They are not on our side in any other way, as they are to distanced."*

In this case the distance by which Statoil operates, makes their contribution to the innovation work distanced and difficult. When asked if this could affect the innovation work I received this answer:

> *"Of course. We have in a way a… We are less open to them. It's not like we keep anything hidden from them, but it's a longer buffer of time before we contact them and give them information about how things are going, what we are achieving, and what we aren't successful in. It would be a great advantage being closer to them, but it's up to them of course. We feel like we are just one out of 25 other projects, so we don't want to bother them... We have to reach a higher threshold of problems before we complain to them."*

In this case, the perceived distance and reliance on formal controls instead of personal contact makes it difficult for the Incubatee 2 to be truly about with Statoil. This is not the only reason for their issues with Statoil's distance. Also the fact that Statoil will be their customer in the future worries them:

> *"It would be an advantage if they were closer to our operation. At the same time this can be difficult. They are after all the customer of our products after the innovation work is done… And at the same time they are supposed to be our partner in the innovation work. In front of a customer, you always want to shine more than you do for others. I think this might be affecting the relationship with them. We always have to appear sharp when we communicate with them – look like we are always in control, make all the right moves.. This makes it difficult to get a close relationship with them, as they are going to become our customer. I know how it is in Statoil you know, as I've worked there for many years. They day we launch our pilot, its* **one** *professional that will give it thumbs up, or say no. If the professional shakes his head and say no, it's over. Of course, this is something we have on our minds, while we at the same time have to consider them as our partner.."*

When asked what role KUPA played in this I got the following answer:

> *"They are... How should I put this... More on our side. To them we can afford to be open. Of course they lack the technical competency, but we have allied ourselves with others that can fill that role."*

Again the role of KUPA as a closer partner which one can afford to play ball with were important, as the formality and difficult role of Statoil as both a supposed development

partner, but also customer, demonstrated how it can make the inter-organizational cooperation difficult.

4.3 Usage and mobilization of management control

Now that I have presented my findings in regards to the design of the formal controls and trust's role for their usage, I am going to move further into how the designs were being mobilized. I found evidence of mobilization effects on three different areas of the IOR: *mobilization of formal controls in KUPA*, *mobilization of internal management control in Incubatee 1*, and finally *mobilization of resource constraints in Incubatee 2*. To begin with I will present my findings in regard to mobilization of the formal controls used by the board of directors towards KUPA.

As we have seen from the above empirical presentation of KUPA, there appears to be a discrepancy between the design and actual usage of the management control mechanisms in place by the board of directors. This was due to several factors, most notably because of the shifting nature of innovation work, the paradox of incubatee choice[23], and the difficulties in measuring results compared to effort. These dilemma were avoided by having an "outer room for action" in between the formal system design and its actual usage. This room was established between the partners by building and maintaining trust among them. According to KUPA's CEO this was necessary in order to perform the tasks in the incubator.

Incubatee 1 was placed in the paradox of having very strict controls during their production, due to health and quality requirements. While one normally would associate this type of control with low flexibility, Incubatee 1 was able to turn this around and use the controls to their advantage. This was done by actively supporting themselves on the financial outputs of their production procedures, enabling process innovation. Instead of having rigid engineering procedures as a costly requirement, they were able to make them into separate cost units, which could be made more efficient. This led both to a good overview for taking on new potential projects, but also laid a foundation for potential new product development according to their production director. In other words both finances and innovation were supported by the mobilization of their management control system.

The most surprising effect of mobilization I found in Incubatee 2. While the effects of this mobilization were perhaps unintended, they played an important role in the development of

[23] Discussed in chapter "Outcome based controls" which begins on page *44*.

the firm according to its founders. Progressing through their development the company was resource starved as a consequence of having to continuously apply for small development grants. Through the LUP program they received some of these grants, but they had to pay 1/3 of the financial support themselves, while Statoil and Innovation Norway paid the rest. This might seem like a drawback, but the unintentional adaptation to this form of control had the opposite effect. According to the founder:

> *"... to us it has been extremely important to have small amounts of financial resources at any given time. If I always had money to spend, I can now in retrospect see that I would have spent them on all the wrong things. First I got 200.000 NOK from Innovation Norway, and I saved and saved... Then we got another 200.000 NOK. And we are reality still doing the same thing, just on a higher level. That's why we are doing this in our spare time. If not, we would burn money away on nothing. In our innovation work we have had so many dead ends that would have been way too expensive to research if we had a lot of money... [This way of managing] is very clever. Because when ideas haven't ripened yet, it's wise to approach them step by step. If you don't, you might decide on the wrong actions, spend a lot of money, and then it might stop. The alternative is spend a small amount, test it, and ever so slightly turn it in the right direction... While this takes a long while, because you have to be very careful, it is much smarter than the alternative in my opinion."*

Here the founder was at least retroactively aware that resource restriction as a control form were mobilized in such a fashion that it helped in avoiding excessive resource expenditure which could hurt their legitimacy towards their owners and debtors as well as supporting the innovation process by letting ideas ripen before taking major decisions.

Next is the empirical summary, where I will in a short manner illustrate my main findings.

4.4 Summary of empirical findings

As we have seen the design of the management control mechanisms in place are numerous, but highly reliant on behavioural based controls. Statoil and KUPA have a more intimate relationship than SIVA and Statoil, whose relationship is signified by distance and formality. We have also seen that the board of directors in the focal point of control by which all formal control from the owners are governed. The only exception to this occurs if incubatees become part of Statoil's own innovation programs. This is formally external to the business incubator,

but in practice the relationship is still intertwined, and not formally separated except for the direct control forms from Statoil on the incubatee. I have also illustrated that trust is very important for all the actors, often for the same reasons. Trust is also both used as a social lubricant which eases communication, but also as a creator of a "outer room for action", which is important for mobilizing the formal controls in order for the incubator to perform their job. Incubatee 1 was shown to mobilize management control intended for strict process monitoring in creative ways in order to facilitate process innovation. This also enabled them to take risks in regards to trying out new production techniques. Lastly, Incubatee 2 showed that resource constraint as a form of control can have positive effects on innovation work if mobilized in a way that enables ideas to ripen.

This concludes the empirical findings, and next I will continue with the theoretical analysis of my findings.

5 Theoretical analysis of my findings

First in the theoretical analysis I will present my findings in regards to the specific features of the context of business incubation in KUPA. The context will be discussed in the light of interdependence among the actors as well as possible transaction costs due to the characteristics of the relationships.

5.1 The inter-organizational context of business incubation

As mentioned in the theory chapter, interdependence between actors in inter-organizational relationships can be an important factor in determining what kinds, and what level of controls are used. First I will analyse my findings related to interdependence and transaction cost economics on the top level of the inter-organizational relationships, i.e., the interdependence of KUPA vis-à-vis its owners in my case

My informant in Statoil was clear that industry incubation as a phenomenon was indeed very important for Statoil's long term strategic goals in Northern Norway. Building a strong oil and gas supplier industry which could assist in creating a strong foundation for further exploration and operation was according to my informant, the key area which both KUPA and their sister incubator Pro Barents could be a vital player in. This extended to both the incubation work itself, but also as a link through other industry building initiatives (one such example would

be LUNN3[24].) In addition to being an important vehicle for their plans to strengthen the oil and gas industry in the High North, KUPA was also seen as a sensor which was closer to the daily activities of the often small established and potential future suppliers in the region. This task was not possible for Statoil to embark on due to their large organization and unwillingness to engage in local politics.

While this underlines the importance of the incubator in my case, KUPA is neither crucially important in the daily operations of Statoil, nor in a position which could be of any danger to Statoil in case of opportunistic behaviour. With this in mind it would appear that this form on interdependence is of the *pooled* kind *(Thompson 2003; Dekker 2004)*, and would thus lead to low levels of formal control with increased reliance on less expensive measures, such as informal controls *(Dekker 2004)*. In my case this seems to be true, as the level of direct reporting to Statoil was low (virtually non-existent if one ignore the reporting required by law) and outcome based controls were non-existent (something which might be attributed to other reasons as well.) While this was the case, behavioural controls were deemed to be important in the cooperation but only through the board of directors where Statoil had as much power as the other actors in principle.

For the case of Statoil vis-à-vis KUPA my findings seems to be aligned with Thompson's *(2003)* and Dekker's *(2004)* concept of *pooled interdependence*, and is in this regard not different than expected in the case of an industry incubator.

If the same findings are analysed in the perspective of transaction cost economics (TCE), we can see that asset specificity is quite low (Statoil have no bound capital in KUPA, except for the 5 year strategic period support), uncertainty is very manageable (they have substantial power in the board of directors, and keep a close eye on the actual operations of KUPA through informal communication and presence), and finally frequency is low (KUPA does not directly provide a product or service, but instead stimulate the supplier industry.) In this light we can see that strict formal controls would not normally be necessary in order to guard against transaction costs, and that a hybrid transaction type would be chosen. This was the case in my findings.

When it comes to the interdependence between SIVA and KUPA my findings were quite similar to those of Statoil, except that SIVA's main product from their incubation efforts were directly reliant on the level of production of the incubators. As such, SIVA's level of output is

[24] **L**everandør-**u**tvikling **N**ord-**N**orge. For more information, visit: http://www.probarents.no/lunn-3/ (20 April 2012)

reliant on the dependent party's (the incubator) ability to deliver an acceptable level of results. With this in mind, it appears that SIVA's interdependence on KUPA is of the *sequential (Thompson 2003; Dekker 2004)* variety and would thus lead to requiring a higher level of formal controls from SIVA towards KUPA. While this did not seem to be the case at the moment, my findings in regards to the wishes to increase formal control through outcome based mechanisms (see next chapter) corroborates Thompson's *(2003)* and Dekker's *(2004)* presuppositions.

In other words, the level of formal controls demanded from SIVA vis-à-vis the incubator were not surprising but in line with what one would expect from Dekker *(2004)* and Thompson *(2003)*. No specific features of interdependence where found in this inter-organizational relationship.

As for the analysis of the same data using transaction cost economics, my findings show that asset specificity is on the same level as that of Statoil (quite low) for the same reason, uncertainty is also on the same level, while frequency are higher in that SIVA are continually evaluated on the output of their incubation program by the Ministry of Trade and Industry. This should entail a wish for stricter controls than those from Statoil, something which is illustrated by the desired output control tools discussed in the empirics. This is in line with Williamson *(1991)* and Dekker *(2004)*.

Moving along from the owners vis-à-vis the incubator, I will now analyse the level of interdependence of the *incubator vis-à-vis the incubatees*.

These relationships are similar to the relationships between SIVA and KUPA because KUPA is directly reliant on the output of the incubatees in order to achieve their goals. But unlike SIVA, KUPA does neither wish to increase their level of formal control, nor do they believe this is beneficiary to them. This is in stark contrast to the forms of interdependence presented by Dekker *(2004)* and Thompson *(2003)*, but may instead by explained by the *substitutional effect of trust* in the inter-organizational relationship *(Rousseau et al. 1998; Dekker 2004; Das and Teng 2001)*. As explained by the CEO of KUPA, this reliance on trust was due to the many negative effects formal control could have on innovation, and in general when used towards small, inexperienced companies. This is a deviation in my case, and seems to be attributed to the specific features of the incubatees, such as nature of their work, but also their potential lack of organization which can absorb these control mechanisms. The opportunity for opportunistic behaviour is quite low for the incubatees as KUPA by design is neither meant to be a provider of financial capital, nor any other tangible assets. In as such, while the

formal controls may be low, they are not necessarily effective in that they may actually get in the way of the innovation work. This will be discussed further in the following chapters on the individual roles of outcome based and behavioural controls.

Seen from the transaction cost perspective, the asset specificity is still quite low (no bound capital in the incubatees), uncertainty is very high (as seen in the empirics, they can only provide assistance and motivation and have no formal power over the incubatees) and transaction frequency is from low to high (the effort spent on the incubatees vary.) This would lead one to expect a wish for more formal control, as in line with Thompson *(2003)*, but as mentioned in the previous paragraph, this did not seem to be the case due to the context of incubation.

Having described the types of interdependence, and the levels of transaction costs between the different actors, it is important to keep in mind that the design of the management control mechanisms are not necessarily only dependent on the level of risk in the relationship – also coordination concerns have to be taken into account *(Dekker 2004)*. This is important to keep in mind for the next section of the analysis chapter – that of management control design.

5.2 Management control design

In this section of the analysis I will attempt to show the management control design I uncovered in my study. I will simultaneously discuss some of the consequences this design had in the eyes of the owners, KUPA and the incubatees themselves. This is done so that I can discuss my problem statement in the final sub chapter of the analysis, *5.4 – "Discussion of problem statement", p.73.*

Outcome based controls

While there were few actual implemented uses of outcome based controls, KUPA and Statoil had some insights to why they were not using them based on their previous experience. The reasons for not using this form of control were three-fold: (1) the inability to establish good dimensions and levels of measure and actually being able to measure them, secondly (2) the perceived negative effects on the work done by KUPA, and finally, (3) the possible negative effects on the innovation work done by incubatees. Merchant and Van der Stede *(2007)* argued that factor (1) is crucial in order to be able to implement result controls. Sub-optimization through measuring too simplistic measures the core of argument (2) and (3). As we can see, argument (1) pertains to both the owners' controls vis-à-vis KUPA as well as

KUPA vis-à-vis the incubatees, while argument (2) and (3) have been split up due to the differences in the incubators work and the innovation work performed in the incubatees.

Argument (1) might seem strange at first, as the number of incubatees would seem to be a sound measure of success just as SIVA argues. Measurement would be as simple as counting the number of incubatees. According to KUPA itself as well as Statoil, this way of thinking is fraught with problems. The reasons for this is that the process of helping incubatees is a complex process, with each individual incubatee demanding different types and levels of assistance, having varying success potential as well as different levels of experience. This leads us to (2) as merely counting the number of incubatees can be a poor measure, as it contains a paradox: Norwegian incubators' main strategic objective is to overcome market failures (i.e. help good ideas into fruition where market forces are not working properly) in order to stimulate regional development, and not in and by itself produce companies. After all, there would be little point in taking companies into incubation whom would be successful regardless of KUPA's involvement. An opportunistic incubator with a strong supply of potential incubatees could pick only the most promising ones which would succeed anyway, undermining their main strategic objective (overcoming market failures in order to fuel regional development.) This is something which was pointed out in a very recent parliamentary report *(Meld. St. 22 - Verktøy for vekst – om Innovasjon Norge og SIVA SF 2012)*, where the authors called for a clearer separation between actual operations and goals for SIVA as they feared operations where too heavily focused upon while the strategic objectives were *assumed* linked to the operations. One effect of this can be the premature assumption of numbers of incubatees equals success.

Regardless, SIVA still wanted to implement this form of result controls, citing that competition would egg on other incubators. This effect was to come from bonuses or rewards based on performance and they would increase the level of success, i.e., number of incubatees, their success, etc. While it is understandable to long for such an arrangement as they are judged by the Ministry of Trade and Industry in aggregate, it can be potentially dangerous due to the sub-optimization dilemma *(Merchant and Van der Stede 2007)*.

When it comes to argument (3) both the CEO of KUPA as well as the industry coordinator were very clear in stating that it could be dangerous to use outcome based controls towards incubatees as the innovation process was shifting, dynamic and prone to setbacks. In this light outcome based controls were seen as problematic in the sense that they only viewed progress forward as good results, while taking a few steps backwards could be equally, or more

important for the innovation work as a whole. Only focusing on progress could according to my informants paradoxically hinder it. This places my findings in regards to outcome based controls in category 2: management control mechanisms can be a deterrence to innovation as they can be insufficiently flexible or dynamic for the rapidly changing demands of highly innovative firms.

I have established that KUPA and the representative from Statoil felt that outcome based controls were counterproductive because of the difficulties in defining the dimensions of measurement, performing them, setting targets, and finally providing rewards. In other words, none of the steps required to implement an outcome based system according to Merchant and Van der Stede *(2007)* could be performed. SIVA on the other hand used aggregated measures for success, and did their measuring through reporting requirements. Through this they could set targets and provide rewards.

As we can see, the implementation of control mechanisms are not only dependent on interdependence or transaction costs, but can be highly reliant on the context's coordination requirements and the perception of success.

Now that I have analysed my findings in regards to outcome based management control mechanisms in the incubator, it is time to continue on to my analysis of behaviour based management control.

Behaviour based controls

While outcome based controls may be considered more important in the future for the incubator, behavioural based controls were used actively at the present time. In fact, behavioural controls seemed to be the most common form of control both in, and between the partners when it came to managing the innovation assistance provided by KUPA. Of the controls, formal planning seemed to be most important. All partners used planning actively in their work in relation to the incubator and innovation work.

In KUPA behavioural control came chiefly in the form of an *action plan document* which was directly derived from their strategy document. This tiering of planning controls were done in order to ensure a tight fit with strategy, overall management of the organization but also management on the projects' level. This form of behavioural control allowed all the partners to have a say in the priorities of the incubator, but it also allowed them to stay conscious about the usage of resources. *Resource control* is also a form of behaviour control, as it limits the room for unacceptable behaviour *(Merchant and Van der Stede 2007)*. In this case this

resource constrain seemed to play several roles, but most importantly as a tool for directing KUPA through the plans with were rooted in the financing solution agreed on by the industrial partners.

While these two behaviour controls were important, there was a third behaviour control type present as well – *procedures for taking potential incubatees into the incubator*. This can, as discussed in the previous section on outcome controls, be a very demanding area to work with as the potential for misaligning actions with the strategy of the incubator is continuously present. As discussed in the previous section, outcome controls seemed like a poor fit for this type of tasks. On the other hand, using procedures but allowing subjective experience and even gut feelings seemed to be the preferred way of control. This is in line with what Das and Teng *(1998)* and Merchant and Van der Stede *(2007)* predicted when proposing that behaviour based controls are more suited for tasks where are difficulties in measuring results, or when there is goal ambiguity or incongruence. On the other hand, it seems to defeat the notion of behavioural constrains as a negative (restrictive) control *(Merchant and Van der Stede 2007)*. This will be clarified in the discussion on trust. KUPA's strong focus on only selecting incubatees that would suit the incubation process is in line with the ideas of Ouchi *(1979)* and the findings of Jones et al. *(1997)* – selecting solid partners from the start might lessen the need for control both for coordination, and appropriation challenges.

Experience and having a gut feeling about what the correct actions were seemed to be a theme which echoed through most of the management control used in KUPA. This seemed to be coupled with the difficulties in performing innovation work. Here both project planning and procedures for selecting incubatees were considered to be an important guiding light, but not at all as a definitive answer to what needed to be done. Having the right people employed in the incubator was considered to be more important. This is in line with Abernethy and Brownell's *(1997)* findings of personnel forms of control as suitable for control domains with high numbers of exceptions.

As for Statoil's usage of behavioural controls in their LUP program, this way of controlling seemed much stricter and less open for renegotiations. This could have the effect of being overwhelming to the candidates in LUP, especially for those that were similar to Incubatee 2 in my case (small, newly started firms without dedicated resources to handle the reporting and formal demands required.) Here the mechanisms could be overwhelming to the small firm, forcing them to spend extra time on matters of little importance to the innovation process itself. The formal control from Statoil was not the only source of negative effects working on

the fresh start-up – Innovation Norway, The Norwegian Research Council and several other public bodies' financing programs all demanded different applications and reports, often audited ones. This could take up enormous amounts of time and effort. Seen in this light, the behavioural control mechanisms seemed to have a negative impact on the innovation work, as it took time from something the entrepreneurs mastered and were good at, and forced them into a new domain (business management) where they had little competency. This is in line with the idea that management control can be an hindrance to the innovation process in companies which are new to the market and developing a new technology, service or product *(Bisbe and Otley 2004)*, placing it in category 2 as a deterrence for innovation.

On the level of the incubatees themselves, their differences seem to have be important for what and how they used management control mechanisms internally. While Incubatee 2 was a newly started firm that had very little formal control due to their size and heavy focus on purely developing technology, Incubatee 1 used behavioural controls actively in order to be able to perform process innovation. This was done through translating the production process into economic terms which were subsequently analysed on a per-project basis. If negative discrepancies where found, the reasons for them were tried uncovered, and if successful, avoided in the future. Also experimentation was encouraged with this system, as it made it possible to translate the effects of process innovation directly into measures which made management and strategic sense. Interestingly, this also made new product development easier, as Incubatee 1 had such control over their expenditures that they were able to take strategic decisions in regards to their new monitoring system with less uncertainty. These findings are in accordance with the idea of management control as something which can help the innovation process. As in the case of Clark and Fujimoto *(1991)*, innovation in highly structured engineering based production settings (in their case the automobile industry) seemed to benefit from this kind of control. Having a strong set of formal control tools was important in order to create an outer frame in which the innovation process could take place.

In despite of Incubate 2 not having any form of internal formal management control, I did uncover an interesting effect of resource constriction on the innovation process. One common assumption of innovation work is that having readily available financial resources is always a good idea in order to drive the process forward; the CEO of Incubatee 2 was of the opposite impression. Instead he argued that since the innovation process was so troublesome and difficult with many setbacks along the way, having *just enough* resources were arguably more important than having *an abundance of resources*. His argument for this was that it was easy

to make wrong decisions in the innovation process (as I have shown numerous times previously with the take two steps forward and one step backwards analogy) and thus to waste money. In their line of development testing and prototyping could be extremely costly, and so realizing that they might have wasted resources on the wrong actions would not only lead to a loss of resources, but also a loss of trust vis-à-vis their investors and financial backers. Instead of using financial resources as a way of pushing the innovation process forward, time as a resource was used instead, and because of it, many expensive and fruitless paths were avoided. While this does not speak for the use of management control in an innovation centric organization itself, it is interesting to see how this form of behavioural control in the form of resource restrictions from various stakeholders and public body supporters could have unforeseen consequences which were in fact positive for the innovation process. These consequences also imply that management control mechanisms could have positive effects for innovation work, but here through unintended consequences. This phenomenon has been documented in the entrepreneurship literature by e.g., Katila and Shane *(2005),* but remains poorly researched in the connection between management control and entrepreneurship.

Another positive effect which the founder of Incubatee 2 mentioned was how management control helped discipline the company, lessening tensions between them and their stakeholders. This is in line with the statements of both the CEO of KUPA and the representative from Statoil concerning legitimacy signalling effects through formal controls.

In summary, I found several forms of both ex-ante (planning, procedures) and ex-post (monitoring) behavioural controls. This heavy use of these forms of control paints the image of my context as reliant of strict hierarchy *(Ouchi 1979, 1980)*, but in the next section we will see that trust makes this image more blurry:

Trust's role for control and innovation

Trust seemed to play many roles in all of the relationships surrounding the incubator. Some of these effects were directly tied to the innovation work, while others were tied to the management control mechanisms. A few even spanned across both domains. While trust is not a control mechanism in and by itself, it can according to Dekker *(2004)* act as a substitute for them, and perhaps even act as a sort of latent control which arises when there is sufficient trust among the actors.

As for KUPA itself, trust seemed to play important roles on three levels of the organization. Firstly, trust was expressed to be *essential vis-à-vis the board of directors*. While this was deemed to be normal, this became especially important due to the difficulties inherent in

innovation work. While goals were set through their actions planning (see the previous sub-chapter), these goals were by nature fleeting as the innovation processes taking place in the incubatees were difficult to control and manage. Due to this, the trust between the board of directors and KUPA was necessary in order to absorb fluctuations in outcomes. This seems to fit with two of Dekker's *(2004)* propositions that trust might *not substitute* the formal controls in inter-organizational relationships, but rather *influence the intensity* of them and even act as a catalyst, *adding to them*. The reasons for this appeared to be because of the learning effect between the actors in both capability and goodwill trust, something which is in line with the findings of Gulati *(1995)* and Kale et al. *(2000)*, but also due to the lessened ambiguities between the partners. The latter point is in accordance to what was found by Dekker *(2004)*. While behavioural controls are sometimes called negative controls (i.e. controls that inhibit actions, instead of enabling them)*(Merchant and Van der Stede 2007)*, this did not seem to be the case KUPA. The reason for this appeared to be the trust that enabled undefined actions to take place outside the borders of the board of director's control mechanisms.

Another proposition of Dekker *(2004)* is that trust can be used to manage the different interests between the actors, and also the coordination of tasks directly. In the case of KUPA's relationship with Statoil, this definitely seemed to be the case.

As the CEO of KUPA mentioned trust is important both upwards and downwards in the organizational chain (see *Figure 2, p. 32* if unsure about the organizational structure.) Trust was important in order to give access to an "outer room of actions" for the incubator in relations to the board of directors, and it also enabled easier coordination with Statoil. For the relationship downwards trust was also deemed to be of crucial importance, but for other reasons. For both incubatees, trust in KUPA was essential due to them exposing their weaknesses to the incubator when asking them for assistance or help. Since KUPA's role involves assisting in overcoming particularly difficult challenges for incubatees, their discretion is important in order to keep KUPA's clients' weaknesses hidden. While this was relevant for both incubatees, Incubatee 2 had another challenge in which trust was important, namely securing their technology from prying eyes. Because KUPA had been in close cooperation with Incubatee 2 since their founding, and was also considering becoming a direct investor in the incubatee, the founder of the incubatee had to have complete confidence in the incubator in keeping trade secrets. In this cooperation the formal controls were either not needed, or they were replaced by trust. This was especially relevant for the support given to actors already established in the industry, such as Incubatee 1. As mentioned earlier, these

forms of incubatees were given a large amount of free assistance in order to give their innovation programs a flying start. Here it seemed like the formal controls were replaced by a high level of trust, which speaks for trust as a *substitute* for formal controls *(Dekker 2004)*.

Another interesting finding was that the CEO of KUPA was of the opinion that there should be a decoupling between the formal controls and trust in the case of the cooperation with the incubatees. This was due to the way one could be blinded by the company if one did not develop a critical attitude towards their innovations. The way KUPA tried to get around this potential problem was by trying to have multiple people on each project, and relying on another incubator when evaluating which companies to take into incubation. Here trust could actually get in the way of the work between the actors, and KUPA compensated through the usage of *internal* procedures for control. This is in line with Adobor's *(2006)* findings of trust as a potentially dangerous characteristic even in non-opportunistic relationships. It might be especially prudent to keep this in mind when dealing with innovation centric organizations, as the value of inventions are very difficult to establish, even for the ones that know them the best.

As a final note on the importance of trust *internally in KUPA*, I found that some of the most important tasks that the incubator could perform vis-à-vis the incubatees were the ones that were most prone to failure and most difficult to measure. Due to this the CEO expressed that without trust there would be great difficulties in doing the right actions in order to achieve success. Nobody wants to fail, and in this type of work, failing in more common than succeeding. Without strong trust towards KUPA's project leaders, there would be no foundation on which they could take on failing projects, supporting the notion of trust as a necessary component of the relationships.

Having concluded my analysis of trust in my case, this is the end of the chapter on management control design. In the next section I will analyse my findings of mobilization effects of management control.

5.3 Examples of management control mobilization

As described in the empirics section, I found three examples of mobilization of management control mechanisms in my case. The first one was the mobilization of formal controls in KUPA. Here I found trust acting as a tool for adding to the formal controls, but in an unexpected way. In my case trust towards the incubator from the board of directors, created

an "outer room of action" in which the incubator could perform their activities. This trust seemed to be of the *relational kind*, as it was built over time as the partners got to know each other's *goodwill* and *capabilities*. As Dekker *(2004)* and Jones et al. *(1997)* concluded, standardized routines and communication could help in building this trust. This was true for the "outer room of action" creating trust in my case as well. In addition, I found that the informal communication between the CEO of KUPA and the industry coordinator of Statoil were at least as important in building trust between them.

In this case the shifting nature of innovation work, the paradox of incubatee selection, and the difficulties in measuring results were mediated by having this outer leeway where realignments to plans could be made, golden opportunities could be seized and quantifiable results were toned down in importance. The mobilization, or adoption in order to avoid this dilemma, was highly reliant on the trust among KUPA and the partners.

These findings are in line with Mouritsen's *(2005)* finding of mobilization as something which can affect design, here through trust's mediating effects.

My second finding of mobilization effects occurred in the first incubatee. Incubatee 1 was placed in the paradox of having very strict controls during their production due to health and quality requirements. Their response to this was using these processes to extract data which could be used to perform detailed cost/benefit analyses that they used for both cost control, but also for performing process innovation and even new product development. Here the dilemma of being faced with costly and complex control requirements, were turned into something positive by enabling flexibility through heightened awareness of costs. This is in line with the findings of Clark and Fujimoto *(1991)* whom emphasized the importance of discipline, and the balance of freedom and control. From their perspective, management control is not only a tool to keep innovation from running amuck, but also necessary in order to fuse discipline with flexibility. They also studied an industry which had very strict production requirements, the automobile industry. This finding places this particular setting in *category 4* of how management control affects innovation.

My third and final finding was the most surprising one: how resource constraints imposed on Incubatee 2 had a beneficial effect on the innovation process they went through. While this mobilization might have been unintended by the powers that placed those restraints on them, it had the effect of moderating the speed of development in the incubatee which hindered resource waste. It also forced the founders of the company to ripen their ideas to a stage were the cost/benefit of developing them improved, making them more salient to potential investors

and the organizations which gave them support. Also in this case, management control seemed to be positive for the innovation work, placing it in *category 4*.

While I found that the mobilization of the management controls had positive effects for both incubatees and a mediating effect for the incubator, the effects might be reliant on actors performing the mobilization, and thus the controls themselves are not a "hindrance" or a "help", just merely a possibility or obstacle depending on the actor's ability.

Now that I have presented my findings in relation to all of my research questions in order, I will now discuss my analysis in regards to my problem statement: *"What is the role of management control in innovation focused contexts?"*

5.4 Discussion of problem statement

As we have seen from the empirics and the analysis, management control has a multitude of roles for both appropriation of resources, coordination, and innovation work in my case. While the appropriation concerns for the owners were dealt with through formal controls in the board of directors, the coordination challenges used the same controls but were much more reliant on trust due to the challenges inherent in innovation work. In both cases the form of control was of the behavioural kinds, but SIVA wanted to implement more outcome based controls. I concluded that this was because they had a different view of the incubation process, and viewed business incubation in more aggregate terms.

Behavioural controls in KUPA were deemed to be very important for both controlling the incubator, but also for the innovation process itself both when used internally and externally towards them. It brought discipline to their clients (according to the CEO of KUPA, the industry coordinator of Statoil Harstad, and both incubatees), it helped incubatees in maintaining their legitimacy vis-à-vis investors and stakeholders (according to the CEO of KUPA and the industry coordinator of Statoil Harstad), and it also prepared the incubatees for the oil and gas industry's demands (according to the industry coordinator of Statoil Harstad.) In this case, the behavioural control mechanisms were designed and mobilized in such a way that it became a support for the dynamics of the innovation work instead of a hindrance. Here the notion of management control as something which while could potentially support innovation work is in line with several authors such as Bisbe and Otley *(2004)*, Simons *(1990, 1991)*, and Mouritsen et al. *(2009)*. This puts management control in my case in category 4 – management control helps the innovation process. Revellino and Mouritsen *(2009)* suggests

that innovations are not necessarily pre-laid out process blueprints nor strategic plans, but rather a set of trials that has to be overcome by the organization adapting to them and trying to make them succeed. In my case, this seems to be true, even if the scopes of the management control are quite different. It is worth nothing however that my findings showed a great deal of awareness of the possible negative implications of management control in most of the actors. This can be a contributing factor to why management control seemed to have a positive effect. Management control is after all first and foremost a tool to help managers control, and to reduce risk in organizations. While the tools were used well in my case, this may not be the case for other companies which are doing worse. After all, my incubatees were success stories. The failed ones do not exist anymore.

Now that I have concluded my analysis section, I will sum up my work and draw some conclusions. I will also briefly discuss some possible implications of my research, before I end with suggestions for further research.

6 Conclusions and future research

As we have seen in the analysis chapter, there are several forms of control used in KUPA vis-à-vis the owners, but also vis-à-vis the incubatees. These controls exist in the relationships for various reasons and the role they play in the innovation work varies as well. As in the analysis, it is important to keep in mind that these controls act in two main areas according to Dekker *(2004)*: managing appropriation concerns, and acting as coordination mechanisms. First I will present my conclusions on outcome based controls:

6.1 The inter-organizational context of business incubation

The major conclusion I can draw from my analysis in terms of the context is that from the perspective of the owners vis-à-vis the incubator, there were no discrepancies according to the expected levels of interdependence and control and my findings. Neither were there any deviations from expectations when considered from a transaction cost perspective.

However, when analysing the context in the case of KUPA vis-à-vis the incubatees, my analysis turned up with an interesting finding. The expected high level of formal controls due to the sequential interdependence and high transaction cost, were not present. The reasons for this seemed to be specific to the context of incubation. Incubatees often being small

organizations without the ability to absorb complex formal controls seemed to be one reason for his effect, the other being the difficulties in measuring, and controlling innovation work.

6.2 Design

Outcome based controls

This form of control was not in use in the inter-organizational relationships, but one of the actors, SIVA, was planning on introducing them if allowed by the Ministry of Trade and Industry. Due to the lack of implementation of this control variety both on the owner and incubatee level, my conclusions are tentative at best. However there were strong and similar opinions on possible consequences if this form of control were to be implemented, so they are worth mentioning.

While SIVA believed this form of control to be positive, in that it would give a competition effect that would benefit the incubation program, Statoil and KUPA itself were of the opinion that this form of control would be destructive. The reason for this was the fear of sub-optimization (i.e., optimizing towards the wrong goals, or steering the wrong direction), as well as the possible undermining of the main objective of state sponsored incubator – to help overcome market failures.

Nor towards incubatees were outcome based controls used. This was due to two reasons – (1) the unwillingness to appear too rigid and "structure fascist like", and (2) because of the uncertain and dynamic innovation process. Not wanting to scare and overwhelm incubatees seemed to be the reason for point (1), while (2) made outcome based controls difficult to implement and use.

Behavioural based controls

While outcome based controls were not used at all in the inter-organizational relationships, behavioural controls seemed to be the de-facto form of control between the actors on all levels.

From the owners, this form of control came primarily through the board of directors in the form of strategic long term plans, and yearly action plans. When seen through the lens of mobilization, these plans were given an "outer room for action" through trust. Mobilizing this control form gave the incubator the possibility to achieve flexibility, the ability to take necessary risks, as well as taking on tasks that were hard to measure the results of but were

deemed crucially important. Without trust acting as a vessel for this mobilization, the CEO of KUPA expressed that the incubator would not be able to function.

The reporting done directly to SIVA could be considered a form of behavioural control, but aside from having a slight disciplining effect on the incubator's project procedures it did neither appear to have a meaningful impact on KUPA's work, nor was it used for managing the incubator.

Formal control toward the incubatees was primarily done before the incubatees were taken into the incubator by partner selection. This has been a weak point for the incubator in the past, as illustrated by another master student of HHB through her thesis "En studie av Kunnskapsparken Nord" *(Solvang 2010)*[25]. While this process was highly reliant on gut feeling or past experience, the incubator did follow set procedures in order to avoid bias. One such example was how they used contacts in other incubators for help in evaluating possible incubatees.

Trust – both additive and substitutive

Trust's role in the incubation work was important on many levels, both in the management of the incubator externally by the owners, internally vis-à-vis employees, but also towards the incubatees themselves.

For KUPA vis-à-vis the owners trust was important in that it gave an "outer room for action" that enabled the incubator to take risks, take on tasks which were difficult to measure the results of and be flexible. The attentive reader might notice that these are the same effects listed under how the mobilization of behavioural controls, and they would correct. Trust in this context was the catalyst which allowed the creation of the "outer room of action", and thus the space in which mobilization occurred. Without it, the incubation work would be stuck in molasses.

On the internal level, trust was important for the CEO because of similar reasons as vis-à-vis the owners. The difficulty in properly measuring result, and the fact that incubatees stood for a large part of the value created themselves made trust very important. This was handled through careful employee selection. Choosing employees that fit the core values of the organization was considered key in order to achieve success.

[25] Please note that this thesis is currently blocked for public viewing. For more information contact the University of Nordland's library: http://uin.no/english/library/Pages/default.aspx

For KUPAs relationship with incubatees, trust seemed to take on a different role, more as a tool in and by itself, acting as a substitute to formal control. Creating a high level of trust in the incubatees made it possible to perform the duties the incubator were set to do. Without trust, the incubatees would not be willing to give up their secrets and show their weaknesses.

6.3 Analysis of mobilization effects

I found three examples of mobilization in my study, the first one being the mobilization of formal controls in KUPA. In this case the dilemma of using behavioural controls in a highly flexible environment was tackled by using trust as a tool for renegotiation. The flexibility needed in this context was due to the innovation processes in the incubatees themselves, but also because the incubator had no way to force incubatees into action. Their only way of trying to achieve success in the incubation process was support and motivation.

My second finding of mobilization was in Incubatee 1. This incubatee used highly controlled production procedures as a basis for more easily making judgements of costs, and performing process innovation. Here the dilemma of strict form versus dynamic innovation was solved by employing the measures from the project accounting systems in order to further development.

The final finding of mobilization was made in Incubatee 2. Here the restrictions imposed upon them were at first considered a problem. This dilemma was, perhaps unintentionally, solved by using these restrictions to give the innovations time to ripen, and to avoid resource waste. One effect of this was increased legitimacy towards investors and sponsors since Incubatee 2 had lower and more transparent levels of spending.

In the next section, that of the main conclusion, I will show my conclusions related to the problem statement.

6.4 Main conclusion – what roles did MC play?

For appropriation concerns and control

As we saw in the context chapter, the design of the controls from the board towards the incubator followed the expected pattern when considering the level of interdependence and transaction costs. The design of the underlying system for control (the role of the board of directors) took the major owners' (industrial partners) interests into account and ensured that agreement had to be made about the strategic direction of the incubator before any actual action plan was made. Behavioural controls were the preferred mode of control.

The role of the management control mechanisms seemed to be of giving direction, but not acting as an absolute arbiter of actions. The CEO of KUPA used a map as an analogy: the action plans and the control surrounding them were as orienting around a map, where reality was the real terrain. Adaptations had to be made. Trust facilitated this adaptation.

As for the incubatees, management control played different roles. Incubatee 1 used management control actively in their production process as a means to control costs, but also due to safety reasons (action controls and strict procedures were preferred in this context) but also due to quality concerns. The latter point was necessary in order to get a foothold in the oil and gas industry.

Incubatee 2 was of smaller size than Incubatee 1, and to them the management controls that were imposed on them from actors surrounding them gave them considerable headaches. This appeared to be because of their small size. However, they were forced to report actively to both Statoil and sources of public support (e.g. Innovation Norway and The Norwegian Research Council.)

In my case the size, age and subsequent stage of development seemed to affect the role of the management control in and towards the organizations.

Role of management control in innovation work

The role of management control mechanisms in innovation work seemed to be multi-faceted, depending on several characteristics in the incubatees. For Incubatee 1, the well-established actor, extensive management control and accounting were deemed to be crucial in the innovation work as it gave them the possibility of performing changes in the engineering process and from it learn how to be more efficient and effective. This gave the organization flexibility in that they had a strong understanding what new projects would cost due to previous experience, and it also made the engineers a more conscious understanding of the costs of production. *Here management control mechanisms were a boon to the organization, and they mobilized it on a continual basis in order to explore new opportunities. This mobilization affected the design of the controls through the mediating effect of trust.*

As for Incubatee 2, my research painted another picture. *Here the formal control mechanisms in place by the LUP program and others were seen as daunting and frustrating. The reporting required took up valuable time that the founder wanted to spend on engineering tasks instead.* While the budgeting and reporting were seen as slightly disciplining, it was the limitation of resources that had the biggest effect on the innovation work itself. Since Incubatee 2 is doing

new product development, the innovation processes is long and prone to failure. Having resources limited gave the founders more time to think and only explore costly avenues if they were the last resort. *According to the founder this forced the project to be more time-consuming, but of much higher quality. He even claimed that without this limitation, the project would probably have been shut down due to over-expenditure.*

Although I did not see evidence of this with my incubatees, both the CEO of KUPA and the industry coordinator in Statoil claimed that in their experience, *formal controls helped in creating legitimacy towards investors and debtors*. This was due to the predictability management control brought. *Preparation for the post new product development phase was also hailed as an important function of management control.*

It is worth nothing that management control and innovation work is no panacea – there were numerous negative aspects as well especially for the smallest firm in my case. The effort it took in begin subject to the controls took time away from their core activity, new product development. This is something which one has to keep in mind for small actors that have little to know previous experience with management control and accounting.

My final note for the reader of the thesis, is that there is no dichotomy of management control as a "help" or a "hindrance" to development work. Clear benefits were witnessed, but so were downfalls. More research on this topic is recommended:

6.5 Future research

While my research discuss the specific features of the context of management and how this influences the controls design and usage, it is clear that my work only touches on the surface of how the different management control mechanisms influences the development work performed in the incubatees. This is something which would be interesting to follow in a deeper comparative case study among already established companies that seek out incubators for help and freshly started companies still in the idea stage. There could be differences which are not accounted for in my study that could affect the level of innovation in the incubatees.

Another interesting avenue of research would be to study the effects of the purported outcome based control that SIVA wanted to implement vis-à-vis the incubators if it is ever established. This could give further insight into how this form of control could affect the development processes in the incubatees.

It would also be interesting to study evolving businesses in an incubation process and how management control affects their success. Perhaps the legitimacy effects uncovered earlier in my research could have such effects as easing the attraction of venture capital or other equity holders, or just merely give them an advantage in the market. Using a longitudinal design I would hopefully be able to follow this process and see what the role of management control is in a developing organization.

Finally, applying the findings of Odd-Birger Hansen *(2005)*, it would be very interesting to see how the cognitive models of management control evolves in successful incubatees, or innovation oriented smaller firms in general. This is a topic that appears to be under-researched in both entrepreneurship and management control literature. Hopefully I will be able to address this in my PhD dissertation.

7 Literature list

Abernethy, M. A., and P. Brownell. 1997. Management control systems in research and development organizations: The role of accounting, behavior and personnel controls. *Accounting, organizations and society* 22 (3-4):233-248.

Adobor, H. 2006. The role of personal relationships in inter-firm alliances: Benefits, dysfunctions, and some suggestions. *Business Horizons* 49 (6):473-486.

Alvesson, M., and K. Sköldberg. 2000. *Reflexive Methodology - New vistas for Qualitative Research*. London: SAGE Publications.

Bachmann, R., and A. Zaheer. 2008. Trust in interorganizational-relations. In *The Oxford Handbook of Inter-organizational Relations*: Oxford University Press.

Bisbe, J., and D. Otley. 2004. The effects of the interactive use of management control systems on product innovation. *Accounting Organizations and Society* (29).

Clark, K. B., and T. Fujimoto. 1991. *Product Development Performance: Strategy, Organization, and Management in the World Auto Industry*: Harvard Business Review Press.

Clausen, T. H., G. A. Alsos, A. Jensen, E. Ljunggren, E. Vinogradov, and U. Hytti. 2011. Innovasjonsselskap: Infrastruktur eller næringsvirksomhet? Bodø: Nordlandsforskning, 100.

Coleman, J. 1990. *Foundations of Social Theory*. Cambridge: Harvard University Press.

Das, T. K., and B.-S. Teng. 1998. Between Trust and Control: Developing Confidence in Partner Cooperation in Alliances. *The Academy of Management Review* 23 (3):491-512.

Das, T. K., and B. S. Teng. 2001. Trust, control, and risk in strategic alliances: An integrated framework. *Organization Studies* 22 (2):251-283.

Dekker, H. C. 2004. Control of inter-organizational relationships: evidence on appropriation concerns and coordination requirements. *Accounting Organizations and Society* 29 (1):27-49.

Dougherty, D., and C. Hardy. 1996. Sustained product-innovation in large, mature organizations: overcoming innovation-to-organization problems. *Academy of Management Journal* (39).

Fukuyama, F. 1995. *Trust: The social virtues and the creation of prosperity*: Free Press.

Gerwin, D., and H. Kolodny. 1992. *Management of advanced manufacturing technology: strategy, organization and innovation*. Chichester: John Wiley and Sons.

Gulati, R. 1995. Does Familiarity Breed Trust? The Implications of Repeated Ties for Contractual Choice in Alliances. *The Academy of Management Journal* 38 (1):85-112.

Gulati, R., and H. Singh. 1998. The Architecture of Cooperation: Managing Coordination Costs and Appropriation Concerns in Strategic Alliances. *Administrative Science Quarterly* 43 (4):781-814.

Hackett, S. M., and D. M. Dilts. 2004. A Systematic Review of Business Incubation Research. *The Journal of Technology Transfer* 29 (1):55-82.

Hansen, O. B. 2005. Regnskap og entreprenørskap: en fortolkende studie av hvordan to entreprenører bruker regnskap, HHB, Bodø.

Hopwood, A. G., and P. Miller. 1994. *Accounting as Social and Institutional Practice*. Cambridge: Cambridge University Press.

Håkansson, H., and J. Lind. 2006. Accounting in an Interorganizational Setting. In *Handbooks of Management Accounting Research*, edited by C. S. Chapman, A. G. Hopwood and M. D. Shields, 885-902.

Jones, C., W. S. Hesterly, and S. P. Borgatti. 1997. A General Theory of Network Governance: Exchange Conditions and Social Mechanisms. *The Academy of Management Review* 22 (4):911-945.

Kale, P., H. Singh, and H. Perlmutter. 2000. Learning and Protection of Proprietary Assets in Strategic Alliances: Building Relational Capital. *Strategic Management Journal* 21 (3):217-237.

Katila, R., and S. Shane. 2005. When Does Lack of Resources Make New Firms Innovative? *The Academy of Management Journal* 48 (5):814-829.

Meld. St. 22 - Verktøy for vekst – om Innovasjon Norge og SIVA SF. 2012. Nærings- og handelsdepartementet 2012 [cited 2012]. Available from http://www.regjeringen.no/pages/37862379/PDFS/STM201120120022000DDDPDFS.pdf.

Merchant, K. A., and W. A. Van der Stede. 2007. *Management control systems - Performance Measurement, Evaluation and Incentives*. 2nd ed: Prentice Hall.

Mouritsen, J. 2005. Beyond accounting change: design and mobilisation of management control systems. *Journal of Accounting & Organizational Change* 1 (1):16.

Mouritsen, J., A. Hansen, and C. Ã. Hansen. 2009. Short and long translations: Management accounting calculations and innovation management. *Accounting, organizations and society* 34 (6-7):738-754.

Mouritsen, J., and S. Thrane. 2006. Accounting, network complementarities and the development of inter-organisational relations. *Accounting, organizations and society* 31 (3):241-275.

Osborn, R. N., and J. Hagedoorn. 1997. The institutionalization and evolutionary dynamics of interorganizational alliances and networks. *Academy of Management Journal* 40 (2):261-278.

Ouchi, W. G. 1979. CONCEPTUAL FRAMEWORK FOR THE DESIGN OF ORGANIZATIONAL CONTROL MECHANISMS. *Management Science* 25 (9):833-848.

———. 1980. Markets, Bureaucracies, and Clans. *Administrative Science Quarterly* 25 (1):13.

Poskela, J., and M. Martinsuo. 2009. Management Control and Strategic Renewal in the Front End of Innovation. *Journal of Product Innovation Management* (26).

Regjeringen. 2011. Prop. 1 S, edited by Utenriksdepartementet, 351.

Revellino, S., and J. Mouritsen. 2009. The multiplicity of controls and the making of innovation. *European Accounting Review* 18 (2):341-369.

Rousseau, D. M., S. B. Sitkin, R. S. Burt, and C. Camerer. 1998. Not so different after all: A cross-discipline view of trust. *Academy of Management. The Academy of Management Review* 23 (3):393-404.

Sako, M. 1995. *Prices, quality and trust: Inter-firm relationships in Britain and Japan*. Cambridge: Cambridge University Press.

Sharma, P., S. J. J. Chrisman, Á. Cuervo, D. Ribeiro, and S. Roig. 2007. Toward a Reconciliation of the Definitional Issues in the Field of Corporate Entrepreneurship

Entrepreneurship: Springer Berlin Heidelberg, 83-103.

Simons, R. 1990. The role of management control systems in creating competitive advantage: new perspectives. *Accounting Organizations and Society* (15).

———. 1991. Strategic orientation and top management attention to control systems. *Strategic Management Journal* (12).

Solvang, V. 2010. En studie av Kunnskapsparken Nord, Bodø Business School, Bodø.

SSB. 2012. Nye kommunetall for befolkningsutviklingen, edited by S. Sentralbyrå. Norge.

Thompson, J. D. 2003. *Organizations in Action: Social Science Bases of Administrative Theory (Classics in Organization and Management Series)*. 1st ed: Transaction Publishers.

Williamson, O. E. 1991. Comparative Economic Organization: The Analysis of Discrete Structural Alternatives. *Administrative Science Quarterly* 36 (2):27.

———. 1993. Calculativeness, Trust, and Economic Organization. *Journal of Law and Economics* 36 (1):453-486.