LUND UNIVERSITY
School of Economics and Management

Master Program in Accounting and Finance
BUSN79 Degree Project – Accounting and Management Control
Spring 2017

Using Management Control Systems as a Package for achieving Organizational Ambidexterity

Authors:

Emmie Freij
Simon Wenglert Ekberg

Supervisor:

Rolf Larsson

Abstract

Title: Using Management Control Systems as a Package for achieving Organizational Ambidexterity

Seminar date: May 29, 2017

Course: BUSN79 Business Administration Degree Project in Accounting and Finance

Authors: Emmie Freij & Simon Wenglert Ekberg

Supervisor: Rolf Larsson

Key words: Organizational ambidexterity, Innovation, Management Control Systems as a Package (MCSP), Exploration, Exploitation.

Purpose: The purpose of this thesis is to investigate how Axis Communications AB, a successful company within a constantly evolving industry, is using MCSP to foster innovation while simultaneously securing profits today. The theoretical concept called "Ambidexterity" describes the challenges of balancing these two objectives, and how successful companies still manage to do this. Our starting point is that the simultaneous use of different MCS, constituting a MCSP, can be used as a way to achieve ambidexterity. By studying how Axis is using MCSP, we aim to broaden the field of research on if and how MCSP can be used as a way to achieve ambidexterity.

Methodology: A qualitative, mainly inductive research approach consisting of a single case study was chosen to be able to answer the research question.

Theoretical perspectives: The theoretical foundation is built upon theory regarding ambidexterity, innovation and Management Control Systems as a Package (MCSP).

Empirical foundation: The empirical data is collected with consideration to the six sources of data that is recommended for case studies. For example, data was collected through interviews and email correspondence as well as from annual reports and the company's webpage.

Conclusions: We find support for that the MCSP in Axis does indeed facilitate the achievement of ambidexterity in several ways. In Axis' case we have found that planning seems to be the core component of the MCSP facilitating ambidexterity, as it appears to have a balancing effect on exploration and exploitation. This balancing effect, however, would probably not have been achieved without the effects coming from combining planning with the cultural and administrative controls. The cybernetic controls and rewards and compensation seem to have a mere complementary role in the achievement of ambidexterity. Further, we find that the MCSP is providing necessary conditions for a combined structural and contextual approach to ambidexterity, which is identified in Axis. Our findings show that although balancing effects are present from the MCSP in Axis, there seems to be a slight skew towards fostering exploration. This could be either due to the increased need to promote exploration due to the usual bias towards exploitation or due to the fact that the fast growing and developing market of Network Surveillance Technology requires this slightly skewed balance towards exploration.

Acknowledgement

We would like to express our gratitude to the people who have made this thesis possible. First, we would like to thank our supervisor Rolf Larsson, who has given us support and guidance throughout the entire process. Second, we would like to thank Axis Communications AB for their collaboration, generosity and warm welcome. A special thanks is directed towards the individuals in Axis who participated in the study and gave us some of their precious time, valuable insights and inspiration. Third, we would like to thank our peer reviewers for giving their feedback and input. Last but not least, we would like to thank our family and friends for their support and understanding.

Emmie Freij   Simon Wenglert Ekberg

Table of Contents

1. Introduction

This chapter introduces the reader to what the thesis mainly will cover and provides some basic knowledge about the area in general. First, the background information about the specific area of interest for this thesis is presented. The next section discusses the research problem and the research question is presented. The chapter ends with presenting the purpose of this thesis and defining central concepts.

1.1 Background

History has shown numerous examples of leading companies finding themselves overrun by its competition. Two recent examples are Kodak, the once leading camera and film technology company being on the verge to bankruptcy in 2012 (Svahn, 2012) and Nokia, the leading mobile phone company that defined the mobile industry for over a decade, that in 2013 sold off their Devices & Services division to Microsoft after failing to enter the smart phone take-over of the industry (Gsmarena, 2015). The reasons for the eventual fall of great companies can be several, however one factor that is relevant in both cases mentioned is the inability to foresee or adapt to changes in the industry.

In an ever-changing world, the ability to foresee and adapt to changes is crucial and it has been stated that the ability of being innovative is crucial for the survival of the organization (March, 1991; Tushman & O'Reilly, 1996; O'Reilly & Tushman, 2013). The notion of exploration refers to innovativeness and the seeking of expanding the current knowledge in order to secure future viability (O'Reilly & Tushman, 2013) and is thus a prerequisite in the face of a changing environment. However, due to exploration being related to uncertainty and costs, many companies focus too little on exploration and instead focus on exploitation. Exploitation refers to using previous innovations and current knowledge to generate revenues today (O'Reilly & Tushman, 2013). March (1991) first brought up the need for companies in uncertain and evolving environments to be able to balance exploration and exploitation simultaneously, an ability that was to become referred to as organizational ambidexterity (Gschwantner & Hiebl, 2016). Since then, organizational ambidexterity has been claimed to be a central component of long-term company success in several academic articles (Raisch & Birkinshaw, 2008; O'Reilly & Tushman, 2013; Ogrean, 2016) and positively associated with growth (Auh & Menguc, 2005) and innovation (Tushman et al., 2010). Although the logic behind organizational ambidexterity, hereafter referred to as ambidexterity, is simple the actual adoption of ambidexterity is difficult. The difficulty lies in the conflicting objectives of exploration and exploitation, where some structures are more suitable for meeting exploitative objectives while others support explorative objectives, thus competing for scarce resources (Duval, 2016). Also, the nature of human and organizational learning leads to the risk of focusing more on one than the other (March, 1991; Levinthal & March, 1993), generally a bias towards exploitation due to the greater probability of short term success (O'Reilly & Tushman, 2013).

Several ways of resolving this balance have been discussed and the role of Management Control Systems (MCS) in achieving ambidexterity has gained increasing interest. The traditional view of MCS as rigid and inhibiting of any innovativeness has been replaced with the view of MCS as flexible and dynamic with the ability to foster innovation (Chenhall &

Moers, 2015). In addition to the now widely accepted versatility of MCS, research on the effects and interconnectedness of several MCS used simultaneously has gained interest. Theory about Management Control Systems as a Package (MCSP) claim that many companies uses several different MCS simultaneously, that together create positive or negative synergies on the achievement of the desired outcomes. As the effectiveness of a single MCS depends on the combination of MCS, they should not be studied and evaluated in isolation but as a "package" (Malmi & Brown, 2008). This view is shared by Sandelin (2008) and Kennedy and Widener (2008), who argue that studying the individual MCS without taking into consideration the effects of the whole MCSP can lead to inaccurate conclusions being drawn of their effects. Combining the extended view on MCS and the effects of the MCSP has led the way in exploring the dynamic possibilities of MCSP and thus, the possibility for MCSP to be used for achieving both exploitative and explorative objectives. The current literature on MCSP and ambidexterity has suggested that a range of MCS can be used to effectively manage exploration and exploitation, and hence achieve ambidexterity (Gschwantner & Hiebl, 2016).

The indistinct definition of ambidexterity as well as exploitation and exploration has led to very disparate adoptions of the concepts (O'Reilly & Tushman, 2013). It is thus of importance to clarify the distinctions made. An extensive number of academic articles relate ambidexterity to innovation, where incremental innovation corresponds to exploitation and radical innovation to exploration (see for example Bedford, 2015 and Agostini et al., 2016). Incremental innovation, or exploitative innovation (Agostini et al., 2016), refers to refinements of current products, services or processes in order to improve some aspect of the production process or offering (Smith, 2015). Radical innovations, or explorative innovations (Agostini et al., 2016), are innovations that fundamentally change existing products, services or processes to offer something completely new (Smith, 2015). The validity of the proposed relation between ambidexterity and innovation has recently been strengthened by Agostini et al. (2016) who in their study show statistical evidence for the link between ambidextrous organizations and what they call "innovation ambidexterity". For this reason and since the distinction between explorative and exploitative innovations are more straightforward than defining the distinction between exploitation and exploration in general, in this thesis we adopt the view that innovativeness, in terms of being able to balance the introduction of both radical and incremental innovations, is a way to be ambidextrous. This distinct definition of ambidexterity also facilitates the identification of ambidextrous organizations. Finding an industry that demands innovativeness and identifying a long-term successful company within this industry suggest an ambidextrous ability in the company.

One industry which has seen great changes over the past decades is that of the Private Security Industry. The solid growth of the Private Security Industry has been driven by increased feelings of insecurity, new regulations and outsourcing of security services (Freedonia, 2015; Moran, 2015). Technology is of increasing importance in the industry, with surveillance technology making the security industry more efficient through the possibility to cover much vaster spaces, improved imaging processing and automatic analytics tools, making a large number of live-guards abundant (Freedonia, 2015; Axis Communications, 2017a). The video surveillance market, which had a market turnover of

30.37 Billion USD in 2016, is estimated to reach 75.64 Billion USD in 2022 (Markets and Markets, 2017). While the market growth over the past years and the forecasts suggest the support and positive trend of the use of video surveillance is far from seeing an end, the power and intrusiveness of current surveillance technology leads to critique and opposition. The industry is under scrutiny from the media, activists and organizations such as Privacy International (Toor, 2016). The companies in the industry must thus keep up with the fast technological developments and the increases and changes in demand in the market while balancing the risks of restrictions being imposed from the on-going debate of the intrusiveness and power of the surveillance technology.

Axis Communications is the market leader in the surveillance technology of Network Video and Video Encoders (Axis Communications, 2017a). Founded in Sweden in 1984 Axis Communications, hereafter referred to as Axis, has over the years made great changes to their product and service offerings, starting with network printer interfaces, changing focus to network cameras and today offering a wide range of surveillance and security solutions. Axis ability to adapt and evolve their operations, products and services has proven to be extremely successful, evident from the achieved market leadership status in several markets over the years including network printing, network optical storage solutions and network video. Since 1996 their focus has been within video surveillance, constantly being on the technological forefront in the industry (Axis Communications, 2017b). Their business model has led to a market leadership position with a turnover of 7,39 billion SEK and over 2 600 employees worldwide in 2016 (Axis Communications, 2017a). Their longevity in the fast changing video surveillance industry suggests the presence of ambidexterity and their size suggests the need for the use of MCS or MCSP to manage the organization. Axis could thus provide a useful case company for studying ambidexterity and MCSP and the relation thereof.

1.2 Problematization and Research Question

Although ambidexterity has become a subject of ample interest of researchers since the introduction of the concept, the understanding of how companies resolve the complexity of achieving ambidexterity in practice is limited, leading to the need for more qualitative research on the subject (O'Reilly & Tushman, 2013). Bedford (2015) argues that MCS are central when a company is trying to balance exploration and exploitation and Gschwantner and Hiebl (2016) in their literature review specifically call for more research on the relation between MCS and ambidexterity. With this in mind, MCS in relation to ambidexterity is an interesting area of research for our thesis.

Searching databases of academic journals no empirical case studies have been found aiming to investigate the relation between the MCSP and ambidexterity. Gschwantner and Hiebl (2016) made a contribution to the subject through their literature review and categorization according to the Malmi and Brown (2008) MCSP framework. Gschwantner and Hiebl (2016) conclude that several studies have shown support for the usefulness of various forms of MCS in achieving ambidexterity and that a MCSP rather than a specific MCS may be necessary to achieve ambidexterity.

Since previous empirical case studies studies have not adopted the holistic view of the MCSP there is, according to MCSP theory, a risk that the synergies between all the control systems present have been overlooked, leading to an unconsidered factor affecting the results. Performing an empirical case study with the purpose of investigating the relation between MCSP and ambidexterity allows for (1) providing further support for previous results on the relation between MCS and ambidexterity while (2) adding to the previous studies with the holistic view of MCSP theory in order to (3) take a first step to evaluate the effects of the simultaneous use of different MCS on the pursuit of ambidexterity and (4) further increase the understanding of the relation between MCS, MCSP and ambidexterity. Gaining a better understanding of how MCSP can be used to achieve ambidexterity should be of both academic and practical interest as it could aid in the design of MCSP to make possible the simultaneous pursuit of exploration and exploitation. Our research question is thus:

How can MCSP be used to achieve organizational ambidexterity?

In order to answer this question several levels of analysis are needed. First we need to identify the MCSP present in the company by identifying the combination of MCS in use. Second, following the findings of Gschwantner and Hiebl (2016), we need to understand how these MCS are used and in which conditions. Third, the relation of the different MCS to exploitation and exploration needs to be analysed in order to understand the relation between the MCSP and ambidexterity.

Due to the complexity of the research question, a thorough insight and understanding of the company in question is needed, suggesting an in-depth case study as the appropriate method. Having identified Axis as an appropriate case company for studying MCS and ambidexterity, we also see Axis as a useful case company for MCSP and ambidexterity. Their size, age and diversity of operations suggest the need for the simultaneous use of several MCS, thus constituting a MCSP. Due to the scope of this study and need for in-depth understanding of the studied company, this study will focus on a single company. A refined research question is thus:

How does Axis use MCSP to achieve organizational ambidexterity?

1.3 Purpose

The purpose of this thesis is to investigate how Axis Communications AB, a successful company within a constantly evolving industry, is using MCSP to foster innovation while simultaneously securing profits today. The theoretical concept called "Ambidexterity" describes the challenges of balancing these two objectives, and how successful companies still manage to do this. Our starting point is that the simultaneous use of different MCS, constituting a MCSP, can be used as a way to achieve ambidexterity. By studying how Axis is using MCSP, we aim to broaden the field of research on if and how MCSP can be used as a way to achieve ambidexterity.

1.4 Defining MCS, MCSP, Innovation and Ambidexterity

As the focus of this thesis is on how Axis is using the MCSP to foster explorative innovation while at the same time being profitable today, the ability of being ambidextrous, there is a need to clearly define MCS, MCSP, innovation and ambidexterity.

There are many definitions of MCS, therefore a clarification of our definition in use is needed. One of the oldest definitions of MCS is presented by Ouchi (1979, p.833), who defines MCS as "mechanisms through which an organization can be managed so that it moves towards its objectives". Otley (1999, p.364) provides a more detailed definition where he defines MCS as "a system that provides information that is intended to be useful to managers in performing their jobs and to assist organizations in developing and maintaining viable patterns of behaviour". Malmi and Brown (2008, p.290) present that "management control include all the devices and systems managers use to ensure that the behaviours and decisions of their employees are consistent with the organization's objectives and strategies, but exclude pure decision-support systems". Finally, Chenhall and Moers (2015, p.1) define MCS as "a set of many formal and informal input, process and output controls that are used by management to achieve organizational goals; the controls are connected by many complementarity relationships". Although somewhat different, these definitions of MCS are based on a similar principle: systems used to achieve set objectives.

For the purpose of this thesis it is important to clarify the distinction between MCS and MCSP. In most organizations several MCS are used simultaneously. Malmi and Brown (2008) states that if these MCS were designed and coordinated intentionally the combination of MCS could be defined as a MCS as it is one integrated system, however this is not usually the case. Since the different MCS in use are introduced at different times and by different interest groups, they should be viewed as separate MCS used in combination as a package, a MCSP, and not as one uniform MCS (Malmi & Brown, 2008).

Smith (2015) defines innovation as the commercialization and diffusion of inventions. Damanpour and Gopalakrishnan (2001) provides a general definition of innovation as the adoption of new ideas or behaviours in the products, services, systems, policies, and programmes, in order to help the organization to adapt to changes in the environment and to thereby maintain effectiveness and competitiveness. Thus, innovation can be seen as a successful exploitation of new ideas. It has been stated that the ability to be innovative is critical for the survival of the organization (Burns & Stalkers, 1961; Tushman & O'Reilly, 1997).

Woods (2016) points out that organizational ambidexterity, or the ability to succeed both with the company's core business as well as with the planning of the future and innovation, is a very important concept for companies to be able to survive in the market. Ambidexterity refers to a company's ability to balance exploration and exploitation. Exploration refers to coming up with new inventions that in the future will generate revenues to the company, while exploitation is about using previous inventions to generate

revenues today. Thus, exploration is about developing new competences to be able to serve new customers, while exploitation is using the company's already existing competences to serve their current customers (O'Reilly & Tushman, 2013). Tushman and O'Reilly (1996) present that exploitation is characterized by short-term horizons, efficiency and refinement, while exploration in contrast is characterized by long-term horizons, experimentation, innovation and adaptability. O'Reilly and Tushman (2013) as well as Hill and Birkinshaw (2014) explain that the focus in many organizations is on exploitation for the reason that it is associated with certainty, efficiency and short-term gains, while exploration in contrast is characterized by uncertainty, inefficiency and costs. This is in line with the view that exploration is about acquiring new external and tacit knowledge, while exploitation is about refining the existing and explicit knowledge (Levinthal & March, 1993; Chebbi et al., 2015). March (1991) points out that exploration is related to things such as risk taking, search, variation, flexibility and experimentation, while exploitation is related to efficiency and refinement. Duncan (1976) stresses that for an organization to be ambidextrous it has to both be efficient in managing the existing demands as well as adapt to changes in the environment. It has been stressed that an organization needs to be able to focus on both exploration and exploitation to be able to survive in the long-term (March, 1991; Tushman & O'Reilly, 1996; Raisch & Birkinshaw, 2008; O'Reilly & Tushman, 2013). The background to this is that organizations that only focus on exploitation will be able to increase their short-term revenues, but will probably not be able to adapt to the changes in the environment and technology in the industry. Whereas organizations that only focus on exploration will be able to adapt to these changes in the industry and be innovative, on the other hand those organizations face the risk of missing out on the returns on invested capital (Raisch & Birkinshaw, 2008). Furthermore, some recent studies have indicated that MCS may actually be used to foster ambidexterity (Gschwantner & Hiebl, 2016). In our study we will use the relation between innovation and ambidexterity (Agostini et al, 2016) as a way to define and identify ambidexterity, where incremental innovation corresponds to exploitation and radical innovation to exploration.

1.5 Disposition

In order to give an overview of this thesis an outline of the contents of the remaining chapters is presented below.

Chapter 2 – Research method and design: In this chapter we explain how the qualitative single case study has been executed, motivates why a case study is the most appropriate research method for the study, and present how the selection process of the case company and interviewees has been done. Thereafter the data collection method is presented and discussed. The chapter ends with a discussion around critique against qualitative research, where the reliability and validity of the study is analysed.

Chapter 3 – Theoretical framework: The purpose of this chapter is to present the theoretical foundation of the thesis. In order to answer the research question we need to consider (1) how ambidexterity is achieved, (2) how to identify the MCSP in use and (3) understand how and why this MCSP is used in order to relate MCSP and ambidexterity. The chapter starts with an introduction to ambidexterity and the approaches and modes to ambidexterity are presented. Thereafter the used framework for management control

systems as a package (MCSP) is presented. The chapter ends with discussing the connection between ambidexterity and the MCSP by presenting theory for the relation between MCS and innovation strategies and previous studies on MCSP and ambidexterity.

Chapter 4 – Empirical findings: The purpose of this fourth chapter is to present the empirical material. The chapter starts with a thorough description of the company background to facilitate the reader's understanding. Thereafter the work with innovation at Axis is described and the timeline for its innovations presented. The chapter ends with a thorough review of how the MCSP is used in Axis.

Chapter 5 – Analysis and discussion: In this chapter the empirical findings are discussed and analysed against the theoretical foundation in order to answer our posed research question.

Chapter 6 – Conclusion: In this final chapter we present the findings and conclusions of our study. We also discuss limitations and practical and academic contributions of our study as well as possibilities for future research.

2. Research method and design

In this chapter we explain how the qualitative single case study has been executed, motivates why a case study is the most appropriate research method for the study, and present how the selection process of the case company and interviewees has been done. Thereafter the data collection method is presented and discussed. The chapter ends with a discussion around critique against qualitative research, where the reliability and validity of the study is analysed.

2.1 Qualitative Method Approach

A qualitative method approach has been used in this study as it was evaluated to be the most appropriate to fulfil the purpose of this thesis. The purpose of this thesis implies a need for an interpretation-oriented method where focus is on really understanding the business, and for this reason a qualitative research approach was appropriate (Bryman & Bell, 2011). Mainly an inductive approach is used in this thesis, as we are following the Axis-story. This is done within the focus area of this thesis, namely ambidexterity and innovation related to MCSP, in the way that applied theory is based on the collected data. By adopting this method we believe that we will be able to address the purpose of the thesis in an appropriate way. However, it is necessary to mention that it is very difficult to be purely inductive. As previously mentioned we are mainly inductive, and with that we refer to the process of moving back and forth between theoretical and empirical data to be able to increase the understanding. This is in line with how Yin (2009) presents that a case study should be executed, namely that one should go back to theory to be able to explain what is stressed empirically. This process should be repeated as in a loop, back and forth between theory and empiricism (Yin, 2009).

As the intention was to investigate how Axis has been successful in balancing exploration and exploitation and how this is related to its MCSP, it is interesting to also see how the employees perceive this. A qualitative method approach is specifically useful in investigating how individuals perceive the situation and the surroundings (Bryman & Bell, 2011). As mentioned by Agostini et al. (2016) a qualitative research approach is also appropriate for getting an understanding of the complex nature of how organizations manage ambidexterity.

However, there are some shortcomings related to the use of a qualitative approach. First, the results can be very subjective as it depends on how the researchers view the whole situation. Additionally, when doing a qualitative research study it can be hard both to replicate the study as well as generalize the findings (Bryman & Bell, 2011). These shortcomings will be discussed in more detail in both section 2.2 and 2.4.

2.2 Case Study

As pointed out by Bryman and Bell (2011) there are different types of qualitative research approaches that can be used, and the one used in this thesis is a case study. As the aim of this thesis is to answer questions that are of the type "how" and "why" as well as get a

thorough holistic view of the organization, a case study is the most appropriate approach to use (Yin, 2009). In addition, Scapens (1990) stresses that case studies is a common research method in the area of management control. The benefits of case studies is that they offer a possibility to really understand the nature of management control in practice, such as which techniques and systems that are used and in which way (Scapens, 1990).

Both Yin (2009) and Bryman and Bell (2011) present the inability to generalize the findings as the most common shortcoming of case studies. We have conducted a single case study about Axis. The use of a single case study was found logical, as it is not really possible to make an appropriate comparison between Axis and another company. As noted by Bryman and Bell (2011) a case study is not generalizable as it probably is not representative to similar companies, and therefore the findings should instead be generalized through theory. This way the study's generalizability can be assessed by investigating the quality of the theoretical conclusions that is built upon the empirical data (Bryman & Bell, 2011).

Case studies can further be classified into descriptive, experimental, explanatory and exploratory (Ryan et al., 2002). This case study is both descriptive and exploratory as it seeks to investigate the ability of balancing exploration and exploitation, while at the same time describing how Axis use the MCSP to achieve ambidexterity. Descriptive case studies describe the techniques, systems and procedures that currently are used in practice, while explanatory case studies tries to explain the reasons behind the used practice (Scapens, 1990). Björklund and Paulsson (2003) stress that exploratory studies often are used when looking for deeper understanding and are therefore suitable when wanting to both describe and explain a phenomenon.

2.2.1 Selection of Case and Interviewees

When deciding on a case company, we started to look at innovative companies in the Malmö/Lund region that had been around for a while, and thereby could fit in under the concept of Ambidexterity. We contacted Axis because its vision is "innovating for a smarter, safer world" (Axis Communications, 2017a p.8) as well as other factors with the company were consistent with our criteria for the case company. We got a positive response from Axis that wanted to participate in our study.

Axis is the market leader in network cameras and CCTV and has been for the past twenty years. Their innovativeness has led them to always be at the forefront of the industry, seemingly always lying one step ahead of its competition, however at the same time successfully utilizing the available product base to steadily increase their turnover from year to year (Axis Communications, 2017a).

Due to the lack of possibility to get a good overview of the company and its departments from the start, we struggled a bit with identifying which interviewees that would be interesting. First we identified the Director and Head of Business Control as an appropriate and knowledgeable interviewee. The fact that he has been working in the company for 13 years and in different positions, was a great benefit for our study as he was very

knowledgeable both about the whole Axis-story but also about the different MCS in place. Additionally he is working as the Controller of New Business, which was very relevant for our focus on innovation (LinkedIn, n.d.). From there on the sampling method "snowball sampling" was used, which Bryman and Bell (2011) explain as when the relevant initiation contact provide us with other relevant contacts for our study, which in turn also provide us with contacts.

The Axis head office is located in Lund with all the central support functions, such as for example Finance, Operations, New Business and Sales. This has been advantageous, as it has contributed to that we have been able to execute our study in a better way by having all functions and people of interest within reach.

2.3 Data Collection

As pointed out by Yin (2009) and Bryman and Bell (2011) it is important to be prepared before starting with the data collection, as the success of the entire case study investigation is dependent upon it. Things such as being able to ask good questions and to interpret the answers are of great importance (Yin, 2009).

2.3.1 Three principles for data collection

Yin (2009) presents three principles for data collection; use of multiple sources, creation of a database for the case study, and creation of an evidence chain. The benefits of the six data sources, which will be discussed further below, can be maximized by using these three principles. The principles apply to all the six data sources, and if these are applied in a correct way they can improve both the validity and reliability of the case study information.

Triangulation is the basis when it comes to the use of multiple sources, as it facilitates the validation of data by using two or more sources as verification of the same information. The need for multiple sources is considerably larger for case studies than for other types of research methods. In this thesis we have focused on collecting data from multiple sources, to increase the validity of our study. The principle of creating a database for the case study refers to the importance of how the collected data is organized and documented. In our study, the case study database consists of notes and audio records from the interviews and email correspondence as well as annual reports and the homepage of Axis. Additionally a case study protocol has been created, which is included in the case study database. The third principle refers to creating an evidence chain, which is important to be able to increase the reliability of the case study information. In this thesis this principle has been followed by using citations from the interviews, and that both the interview guide as well as the case study protocol is available to the reader. This contributes to increase both the transparency and reliability of the study (Yin, 2009).

2.3.2 Six sources of data

When doing a case study it is favourable to use multiple sources as it contributes to provide more convincing and accurate findings and conclusions. There are six sources of data that can be used for case studies, which are; interviews, personal notes, direct observation, participative observation, physical artefacts and formal written sources. As the available evidence have different strengths and weaknesses, these different sources can complement each other (Yin, 2009).

Interviews and personal notes

The interviews are conducted with employees in key positions within the field of innovation and management control at Axis. Yin (2009) presents that interviews can provide answers related to both "how" and "why", which is appropriate for the research question of this thesis. The reason for why we chose to do interviews, instead of for example surveys, is that interviews are more flexible as well as providing both a better understanding and additional information as follow-up questions can be asked. Semi-structured interviews were arranged, which are seen as appropriate for a qualitative study as it enables a dialogue. This structure is appropriate in this case, as we wish to obtain data without risking to influencing it with our own opinions and potential biases, but simultaneously guiding the interview in the right direction. The interviews were held at the interviewees' office, to both facilitate for them as well as making them feel comfortable (Bryman & Bell, 2011). The interviews were recorded, to increase both the reliability and transparency of the study. Additionally, Malmi and Brown (2008) stress that it is necessary to use interviews as a data collection method when studying the MCSP in order to ensure that the data, in form of the answers, is keeping a high quality. For our semi-structured interviews we developed an interview guide with the questions, with the aim that this would facilitate the reader's understanding and increase the transparency of the study (Appendix 1). The structure of the interview guide was set with the MCSP framework in mind, and the main focus was innovation, ambidexterity and management control. The empirical part will, to a large extent, also follow the structure of the interview guide. Further, when we wrote the interview questions we had in mind that the interviewee should not be able to just answer yes or no to the questions. Therefore, we used question of the type "how" and "why". The interview guide was sent to the interviewees before the interview with the aim to achieve good discussions and rich answers at the interview.

Table 1 – Interviews

Interview date	Name	Title/Position	Duration	Recorded
19th April 2017	Rickard Dahlroth	Director and Head of Business Control, Controller of New Business	1h 50 minutes	Yes
25th April 2017	Martin Rasmusson	Business Controller for Products & CTO and HR	55 minutes	Yes
28th April 2017	Ylva Bexelius	Project Manager for New Video Products	1h 35 minutes	Yes
8th May 2017	Kent Fransson	Global Product Manager for PTZ Cameras	55 minutes	Yes

Table 2 – Email correspondence

Email date	Name	Title/Position	Topic
3rd May 2017	Ylva Bexelius	Project Manager for New Video Products	Classification of innovation projects
3rd May 2017	Nicklas Olofsson	R&D Director for Fixed Cameras	Rewards related to innovation and patents
3rd May 2017	Nils Olsson	Director of Intellectual Property Rights	Rewards related to innovation and patents
12th May 2017	Anna Jeppsson	R&D Director for PTZ Cameras	Roadmap, budget and project budgets

Observations and physical artefacts

During our visits at Axis' head office some observations were made unintentionally, mainly about the corporate culture, which provided us with valuable information about the context it is operating in. By visiting the breakfast hall, we got a glimpse of the corporate culture, and could there observe the ongoing interaction and communication between the employees. Additionally, we got a guided tour in Axis Experience Centre that provided us with useful information about the different products and the company's history. Some of the physical artefacts at the office also provided us with insights about the culture, which increased our overall understanding. However, it has to be mentioned that we did not use the data collection methods observation and physical artefacts in the exact way as Yin (2009) describes it, as these were not related to the main purpose of our thesis. These were instead used in an informal way and as a complement to the other sources, mainly just to increase our understanding of the company.

Formal written sources

The formal written sources consist of academic articles accessed from LUBsearch and Google Scholar, as well as textbooks from the library at LUSEM. Additionally, data has been collected from the company's annual reports and webpage and external sources such as news articles. As pointed out by Yin (2009) these kinds of formal written sources are objective in the way that they are not created as a result of the case study. For example the annual report is very useful as it is accurate, quantitative and covers a lot of activities.

2.4 Critique against qualitative research

Despite the presented strengths of the chosen research method, there are also some limitations related to it that have to be mentioned. There is always a risk that a qualitative study can become subjective, as the researchers' opinions and biases can influence the study and thereby also the results (Bryman & Bell, 2011). Another problem with qualitative studies is the difficulty to generalize the results, which means that the findings or conclusions from this case study will not be applicable in another setting or context (Scapens, 1990; Yin, 2009). Further, Yin (2009) stresses that case studies have received much critique for not being scientific enough, and therefore not trustworthy. Therefore it is of great importance that the procedure is carefully and accurately done, both when it comes to preparations, execution and writing. Throughout the whole process with the thesis, the directives from Yin have been applied. An example of these directives is that a case study

protocol (Appendix 2) has been created to increase the reliability of the case study (Yin, 2009).

The critique about the limited transparency within qualitative research often stems from a lack of information about how the planning and execution of the study has progressed. A case study is not generalizable as it probably is not representative to similar companies at other locations. Therefore the results from the qualitative study should be generalized to theory. The assessment of the study's generalizability is done by investigating the quality of the theoretical conclusions that is built upon the qualitative data (Bryman & Bell, 2011).

However, we believe that the findings from this case study will contribute to broadening the knowledge about how MCSP can be used as a way to achieve ambidexterity, despite the inability to generalize the findings from this case study. To be able to assess the overall quality and trustworthiness of the research method, the criteria validity and reliability will be discussed further. It is important to keep these in mind throughout the whole process of the thesis, and not just in the beginning (Yin, 2009).

2.4.1 Validity and Reliability

Validity is about assessing whether the conclusion shown in the study is based on the collected material and related to the purpose of the study. Thus, validity is focusing on the ability to investigate what was intended to be investigated. High validity is therefore obtained when one succeeds to measure what one already from the beginning intended to measure (Bryman & Bell, 2011).

According to Yin (2009) there are two types of validity that are relevant to consider to be able to ensure that the single case study keeps a high quality, these are constructed validity and external validity. The constructed validity refers to data collection, and a way to achieve high validity is to use many different sources. Constructed validity can thereby be increased if multiple sources of data are used. By conducting four interviews and obtaining additional information from the company's website, annual reports and email correspondence, the constructed validity of the thesis increase as we not only rely on one source of data. External validity is focusing on the actual research design and is about using relevant theories when doing a single case study (Yin, 2009). External validity refers to the extent to which the findings of the study can be generalized. The findings from a single case study cannot be generalized, however it can contribute to broaden the understanding and field of research (Bryman & Bell, 2011). Yin (2009) also presents internal validity, but this is not applicable for descriptive studies, and is therefore outside the scope of this thesis.

Reliability refers to whether the results from a study will be the same if it is repeated, or if it will be affected by temporary factors. If the study is executed many times with the same result, it means that the study has high reliability. To be able to achieve high reliability, the method has to be totally independent of who is doing the study (Bryman & Bell, 2011). Thus, the concept reliability aims to minimize the different errors and biases that can occur when doing a case study (Yin, 2009). To put it in a simple way, it means that another

researcher should be able to do the same study and thereby also end up with the same results and conclusions.

As the thesis is based on personal interviews and email correspondence it is hard to ensure high reliability. This is due to that there always is a risk that the interviewer, or receiver of the email, does its own interpretations of the answers. To increase the reliability of the study, the interviews have been recorded to be able to get a more correct interpretation of the interviewees' answers. There is no possibility to control the reliability of the data when it comes to things such as the answers accuracy and dependability, however we can reflect on it to be able to get opportunities to increase the reliability (Bryman & Bell, 2011). As reliability refers to the possibility of reconstructing the study with similar results using the same approach (Yin, 2009), we have carefully documented the work throughout the process to increase the reliability of the study. A tool that can be used to increase the reliability of a case study is to form a protocol early in the process, before the actual case study has been executed. The case study protocol provides a clear picture of what the purpose of the case study is and how it should be executed. Finally, the protocol provides the case study with a higher level of replicability as it works as a clear template that others can follow (Yin, 2009).

2.5 Ethical considerations on the chosen method

It is important to consider the ethical implications of the methodological choices made. Bryman and Bell (2015) suggest following four main ethical principles: harm to participants, lack of informed consent, invasion of privacy and deception. In order to avoid harm to participants, such as induced stress, the interviews have been conducted in an environment chosen by the interviewees and no confidential information has been requested that could be harmful for the career of the interviewees or to the case company. All participants have volunteered to participate in our study and agreed to the interviews being recorded and documentation such as photos from the company visits have been asked for consent. These recordings and documentations have been available to the authors only. No interviewee has requested anonymity, otherwise this wish would of course have been respected. The purpose of the study and the interview guide has been presented to all participants before their agreement on participating in the study in order to ensure informed consent. Further, we have stayed within the boundaries of the information presented to the interviewees beforehand to avoid invasion of privacy by collecting too much information. No questions have been requested to be left out, however, if this would have been the case this would of course have been respected. To avoid deception we have been open and clear about our intentions with the study and it is important to mention that no conflict of interest has been present amongst the authors (Bryman & Bell, 2015).

3. Theoretical foundation

The purpose of this chapter is to present the theoretical foundation of the thesis. In order to answer the research question we need to consider (1) how ambidexterity is achieved, (2) how to identify the MCSP in use and (3) understand how and why this MCSP is used in order to relate MCSP and ambidexterity. The chapter starts with an introduction to ambidexterity and the approaches and modes to ambidexterity are presented. Thereafter the used framework for management control systems as a package (MCSP) is presented. The chapter ends with discussing the connection between ambidexterity and the MCSP by presenting theory for the relation between MCS and innovation strategies and previous studies on MCSP and ambidexterity.

3.1 Achieving ambidexterity

The way organizations can go about balancing exploration and exploitation has been studied relating to different approaches and modes of ambidexterity. The academic research has identified three different approaches for ambidexterity: sequential, structural and contextual (O'Reilly & Tushman, 2013). Sequential ambidexterity refers to alternating the focus between exploration and exploitation over time, thus periodically realigning the structures, to achieve ambidexterity. Structural ambidexterity refers to balancing exploration and exploitation simultaneously by using separate subunits. The separate units specialize in either exploration or exploitation but are held together by common values, strategic intent and targeted linking mechanisms to leverage shared assets, making possible the achievement of ambidexterity on an organizational level. The third approach is contextual ambidexterity. Contextual ambidexterity focuses on the individuals in the organization, suggesting that ambidexterity can be achieved by providing an organizational setting where the employees individually balance exploratory and exploitative focus (O'Reilly & Tushman, 2013).

However, O'Reilly and Tushman (2013) lift the discussion that a contextual approach proves difficult in explaining explorative endeavours since these at some point would require the involvement of senior management for resources and legitimacy. This discussion can be seen to approach the view of Birkinshaw and Gupta (2013) that the separate approaches to ambidexterity does not present the whole story, rather ambidexterity is a nested concept that is present at several levels of the organization simultaneously. What have traditionally been discussed as separate approaches to ambidexterity are now increasingly seen as complementary and simultaneous constructs (Agostini et al., 2016). In their study, Agostini et al. (2016) find interrelatedness between structural and contextual ambidexterity, suggesting that these approaches can reinforce each other. Improved performance has been shown to be more related to ambidexterity when ambidexterity is observed at different organizational levels (Junni et al., 2013). This combined approach to ambidexterity can be achieved through integrating the organization around a culture formed by the top management, linking it to a structure and context to resolve tensions, paying attention to formal divisions of tasks and internal mechanisms as well as context (Agostini et al., 2016).

In addition to the different approaches, ambidexterity can be undertaken through different "modes". These modes are: internal, alliance and acquisition (Duval, 2016). The internal

mode means that ambidexterity has been achieved internally within the organization, referred to as "within modes". The second mode, alliance, refers to achieving ambidexterity through the cooperation with alliance partners and the third mode, acquisition, refers to achieving ambidexterity through purchasing either the explore or exploit capability. Using the last two modes, ambidexterity is referred to as being achieved "across modes" (Duval, 2016). The intra-organizational modes are usually categorized within the structural approach to ambidexterity, however it could be discussed that all approaches to ambidexterity could be undertaken at all modes. The inter-organizational and intra-organizational approaches have been claimed to be complements rather than substitutes (O'Reilly & Tushman, 2013).

3.1.1 Critique on ambidexterity

Interestingly, though researchers have agreed upon that organizational ambidexterity is important for firm performance and long-term survival (March, 1991; Tushman & O´Reilly, 1996), we have identified that the studies have been conducted in varying ways and that there is some inconsistency in how the term organizational ambidexterity is used. Junni et al. (2013) argue that the relationship between ambidexterity and firm performance, to a large extent is moderated by methodological choices as well as by contextual factors. Raisch and Birkinshaw (2008) raise critique against that contributions are coming from a variety of research domains, which all have their own way of discussing ambidexterity. Further they argue that this has led to that the original focused debate on organizational ambidexterity has become both disconnected and complex. In addition, this has lead to a diffusion of how the vocabulary is used, which in turn leads to a diffusion related to the specific effects of the concept (Raise & Birkinshaw, 2008). O´Reilly and Tushman (2013) also point at that the indistinct definition of ambidexterity as well as exploration and exploitation has led to that the concepts have been adopted in different ways. Raisch and Birkinshaw (2008) suggest that a comprehensive framework that integrates the various insights from prior search while specifying the dominant relationships between the most relevant variables, would be beneficial for the field of research. Another criticism against studies regarding ambidexterity is that there is no clarity around how to empirically measure organizational ambidexterity (Birkinshaw & Gupta, 2013; O´Reilly & Tushman, 2013). After all there is a broad consistency among researchers about the concept of ambidexterity as well as its effects, but, as previously mentioned, a clearer definition of the vocabulary would be beneficial for the future field of research.

3.2 Identifying the MCSP

Malmi and Brown (2008) present the conceptual framework Management Control Systems as a Package (MCSP), that argues that the MCS should not be studied in isolation. They stress the importance of studying it as a package as the different controls affect each other. The MCSP includes administrative, cultural, cybernetic, planning, and rewards and compensation controls (Malmi & Brown, 2008).

It has to be mentioned that the MCSP by Malmi and Brown (2008) is not the only framework for studying MCSP. However, as mentioned by Gschwantner and Hiebl (2016) the MCSP is an appropriate framework to use, as it is easier to understand, provides a good overview and is more detailed than other similar frameworks. For these reasons, this MCSP framework has been chosen in this thesis.

Cultural Controls					
Clans	Values			Symbols	
Planning		**Cybernetic Controls**			**Reward and Compensation**
Long range planning	Action planning	Budgets	Financial Measurement Systems	Non Financial Measurement Systems	Hybrid Measurement Systems
Administrative Controls					
Governance Structure		Organisation Structure		Policies and Procedures	

Figure 1. Management control systems package (Malmi & Brown, 2008, p.291).

3.2.1 Administrative control

Administrative control is about controlling the employees' behaviour in different kinds of ways. This can, for example, be done by examining how the organizational structure and hierarchy are built up, as these two factors are affecting how the relations between the different levels are working. Further, administrative control can also be exerted through the policies and procedures that are present in the organization, partly by clarifying what responsibilities the employees have and partly through specifying how their tasks should be done. Administrative control is divided into three subgroups, namely organizational structure, governance structure, policies and procedures (Malmi & Brown, 2008).

The organizational structure and design works as an administrative control as it organizes the individuals within the organization. The governance structure is about the structure and composition of the board, as well as of different kinds of management and project groups. Governance also includes the formal lines of authority and accountability in the organization and the systems that facilitates the coordination of activities. Thus, the governance structure clarifies the employees' obligations and authorizations in the organization (Malmi & Brown, 2008). Policies and procedures are also a form of administrative control (Malmi & Brown, 2008), and they are closely related to Simons' (1994) boundary system, that refers to risks that should be avoided. The boundary system has a limiting role in form of setting a minimum acceptable level of performance or behaviour (Simons, 1994), this is for example often present in the company's code of conduct. Thus, Malmi and Brown's (2008) administrative control encompasses Simons' (1994) boundary system.

3.2.2 Cultural control

Culture can often be hard to define, but corporate culture is usually defined as a set of values, beliefs and social norms that are shared by the majority of the employees and therefore are influencing their thoughts and behaviour (Flamholtz et al., 1985; Fisher, 1995). Thus, the corporate culture consists of values and social norms that the management and senior employees share and work to implement in the company.

Cultural control can be very efficient in influencing the employees' behaviour, and there are three different aspects of cultural controls; value-based controls, symbol-based controls and clan controls (Malmi & Brown, 2008). The value-based control is developed by Simons (1994), who presents it as a beliefs system, which is related to and built on the core values of the company. The beliefs systems work as a guide in the whole creative process of where the company explores new opportunities (Simons, 1994). Symbol-based control is for example when the office is designed in a special way in order to facilitate the development of a particular culture (Schein, 1997). Ouchi (1979) developed the concept of clan control, which refers to the fact that during socialization individuals themselves tend to align with different values. The socialization process can be done on an organizational level or in smaller groups such as at a department. Clan control facilitates the establishment of values and beliefs through ceremonies and rituals of the clan (Ouchi, 1979). Gschwantner and Hiebl (2016) discuss how the cultural control described in the Malmi and Brown (2008) framework is broader than the beliefs system in Simons' (1994) levers of control framework. Cultural control as described by Malmi and Brown (2008) also include elements of Simons' (1994) interactive control since these controls are not only used to communicate values but can be used to create a culture of communication and collaboration (Gschwantner & Hiebl, 2016).

3.2.3 Cybernetic control

Cybernetic control is defined as "a process in which a feedback loop is represented by using standards of performance, measuring system performance, comparing that performance to standards, feeding back information about unwanted variances in the system, and modifying the system's comportment" (Green & Welsh, 1988 p.289). To put it simply, cybernetic control is the traditional view about what system or which tools a company is using to control the organization. Generally, control tools simply aim to facilitate the control of a company by measuring, comparing and following up on results to be able to come up with suggestions for improvements. There are some characteristics related to the tools for cybernetic control. These are that the control tools should be quantitatively measurable, there should be performance standards or goals that should be met, and there should be a feedback process where performance and standard is compared. If there are any variances, these are analysed to be able to make improvements (Malmi & Brown, 2008). Cybernetic control is very much related to Simons (1994) diagnostic control system, as much focus is on the most important performance variables for the company and if the performance is good it will be rewarded.

Four basic cybernetic systems are included in the MCSP typology, and these are budgets, financial measures, non-financial measures, and hybrid measures (Malmi & Brown, 2008). In

many organizations budgeting is central to the MCS (Bunce et al., 1995), and is therefore seen as a common cybernetic system. Financial measures are common control tools as they hold employees accountable for specific areas and are closely related to target setting. In the last couple of years non-financial measures have become popular and the focus here is on drivers of performance. Finally, hybrid performance measures are a mix of both financial and non-financial measures and the most adopted hybrid performance measure is the BSC (Malmi & Brown, 2008).

3.2.4 Planning control

According to Malmi and Brown (2008), the company establish goals through planning and thereby it is able to control both the work and behaviour within the organization. Planning is also helpful when it comes to clarifying what level of effort and what behaviour the company is expecting from the employees, as well as aiming to facilitate the coordination between the internal departments. Additionally, planning is used as a tool for controlling the activities in the company and ensuring a desired level of production is reached. Planning control is divided into strategic planning that sets the goals for the long-term, and action planning that is more tactical and short-term oriented. It has been shown that planning is closely related to management control as the planning clarifies the company's goal. That a company has clear goals is of great importance for its performance, because the employees become aware of which goals the company are striving for and what behaviour that is expected from them in order to reach these goals (Malmi & Brown, 2008). Gschwantner and Hiebl (2016) relate Malmi and Brown's (2008) planning controls to Simons (1994) interactive control, as the interactive control lever focuses on planning activities and challenging the underlying assumptions of current activities.

3.2.5 Reward and compensation control

Reward and compensation systems are used for motivating and improving the employees' performance by creating congruence between the individual's and the company's goals and activities. The idea behind this is that individuals that are motivated and rewarded put in more effort than those that do not get it (Bonner & Sprinkle, 2002). Malmi and Brown (2008) present reward and compensation system as a separate control in their typology, although these rewards are often closely related to cybernetic controls. The reason behind this is that rewards and compensations also can be provided for other reasons, and therefore they need to be separated (Malmi & Brown, 2008). Reward and compensation control is similar to Simons (1994) diagnostic control systems, where good performances in important areas are rewarded.

3.2.6 Critique on the MCSP

General critique has been directed towards the idea of studying MCS as a package. Grabner and Moers (2013) claim that the MCSP perspective is not suited for investigating interdependencies between MCS and that this holistic approach "has not yet succeeded in advancing our knowledge on the configuration of multiple control practices" (p.418) and might be described as too ambitious. Additionally they claim that if MCS are assumed to be

interdependent it is crucial to develop theory on this interrelatedness, something currently lacking (Grabner & Moers, 2013). The lack of guidance in MCSP theory for assessing the MCSP is a concern that is also raised by O'Grady et al. (2016) and Otley (2016) pose that much is still to be done in order to create a general framework that is useful for validly comparing the results of future studies.

Bedford et al. (2016) approach some of this critique by claiming their study show how an understanding of MCSP can indeed inform the analysis of MCS and present evidence for the combined use of several MCS affecting the outcome of individual MCS. Also, their study show evidence for equifinality, i.e. several different MCSP being equally effective for a specific contingency, as well as interdependencies between MCS being affected by the strategic context of the firm. However, they also discuss that their study insinuate that "the effectiveness of most MC practices within a package appears to be primarily attributable to their fit with context rather than with each other" (p.23) and thus that the assumed extent of interdependency of MCS appears to be somewhat overstated in the literature. Even if this constitutes a significant step for MCSP theory, still more theory needs to be developed in order to provide the sought after guidance on MCSP interrelatedness.

3.3 MCSP use for ambidexterity

The article by Gschwantner and Hiebl (2016) is particularly relevant for this study as it is the only article found connecting ambidexterity and MCSP and even using the framework by Malmi and Brown (2008). Through their literature review and classification according to the MCSP framework they suggest that the use of a MCSP can support the achievement of ambidexterity through combining MCS with different effects on exploitation and exploration. Their findings on each MCSP category is presented below.

Cultural controls
Can have a powerful influence on achieving ambidexterity, particularly in combination with other MCS. Effective social norms enable informal controls and can thereby partially substitute formal controls and balance exploration and exploitation. Exploration can be facilitated through, for example, open communication, a free flow of information, showing tolerance towards negative outcomes and providing the flexibility necessary for reacting proactively to changes. Exploitation can be promoted through a rule following and disciplined environment. Cultural controls are, however, especially suited for fostering exploration while exploitation may also be achieved through more formal controls (Gschwantner & Hiebl, 2016).

Planning
Planning can be useful for both exploration and exploitation. Exploration is fostered through planning controls that serve the information of employees, integrate knowledge and have a feed-forward orientation, providing a basis for open communication and discussion of current action plans and therefore allow employees to recognize changes. Exploitation, on the other hand, is fostered through mere action planning which restrains the employees' freedom of action, focusing employee behaviour on the organization's objectives. Thus, to

achieve ambidexterity, planning should be used in combination with controls with an opposing effect (Gschwantner & Hiebl, 2016).

Cybernetic controls
Can influence the balance between explorative and exploitative measures. Combining feed-forward and feedback controls can provide orientation through transparency and guidance in performance and still provide space for employees to explore new ways of solving problems and to motivate them and can thus help them achieve a balance between exploration and exploitation (Gschwantner & Hiebl, 2016).

Rewards and compensation
Can support the achievement of ambidexterity by acting to align the individuals' aims with the organization's objectives. However, these controls come with the risk of having a distorting influence that endangers the achievement of ambidexterity and must thus be used with great care (Gschwantner & Hiebl, 2016).

Administrative controls
Tight structures that limit the behaviour of the employees, seeking predictability through standardized procedures support exploitation, while exploration is supported through structures providing flexibility and focus on searching and realizing new opportunities. Thus, administrative controls, just as planning controls, also benefit from being combined with opposing controls to achieve ambidexterity (Gschwantner & Hiebl, 2016).

3.4 Ambidexterity and the MCSP

3.4.1 MCS for innovation

Since the relation between ambidexterity and MCS is rather unexplored, the link between ambidexterity and innovation becomes useful by broadening the available academic foundation for this study. A prominent contribution to connecting MCS and innovation has been made by Davila (2005). Davila (2005) proposes a framework for the use of MCS to foster innovation. The framework is based upon the type of innovation (radical/incremental) and the locus of innovation (top management/day-to-day actions in the organization). If the innovation is radical it redefines the company's future strategy in a radically new way, whereas if it is incremental it more modifies the company's current strategy step by step. The new ideas that in turn can lead to innovation can come both from top management and from the employees within the organization. The use and design of the MCS differs depending on both which type of innovation and locus of innovation. Thus, the role of the MCS differs between the different innovation strategies (Davila, 2005).

	Type of innovation defining strategic change	
	Incremental	**Radical**
Top Management formulation	Deliberate strategy	Strategic innovation
Day-to-day actions	Intended strategic actions	Autonomous strategic actions

Locus of innovation (row label on left)

Figure 2. Strategic concepts for MCS (Davila, 2005, p.42).

Since our focus is on the MCSP, as opposed to a single MCS, we will have to use this framework in a transferred sense. Although Davila (2005) describe appropriate designs of a MCS according to the chosen strategic concept, it can be argued that the same outcome can be the result of a combination of control tools that have not been designed and coordinated intentionally, i.e. a MCSP. Davila's (2005) framework provides a theoretical foundation specifically focused on the effect of how a MCS is used, thus this framework can be applied in order to further analyse how the design and use of the MCSP foster innovation and in turn its effect on ambidexterity. As shown in the figure above there are four different innovation strategies; deliberate, intended strategic actions, autonomous strategic actions and strategic innovation (Davila, 2005). These innovation strategies and their relation to the MCS will be discussed further in more detail.

Deliberate strategy

In the deliberate strategy the ideas, which are close to the current strategy, come from the top of the organization and is implemented step by step. The role of the MCS is therefore to support the company's current strategy and to translate it into action plans that in turn will generate value to the company. Thus, much focus is on efficiency and speed (Davila, 2005). The role of the MCS for the deliberate strategy is related to Simons (1994) boundary system, as it stresses what risks to be avoided, and to the diagnostic control system, as it take actions if there are some deviations as well as that budgets and other standardized performance measures are used for comparing the targets with the outcomes (Davila, 2005).

Intended strategic actions

The intended strategic actions are characterized by that ideas, which are closely related to the company's current strategy, comes from all parts of the organization and are implemented step by step. In this situation the role of the MCS is to act as a framework to be able to, throughout the whole organization, refine the current strategy. Instead of seeing deviations from expectations as something bad, it is here seen as opportunities to take in incremental innovations that apply to the company's current strategy. The role of the MCS is to take in as much information as possible to the organization and to capture this learning (Davila, 2005). It is closely related to Simons (1994) interactive control system in the way that top management personally is involved in the subordinates' decisions and encourage to a discussion around the strategic uncertainties that is related to the company's current strategy. For example, the budgetary planning can encourage employees to explore alternatives. Additionally the MCS, such as a budget for example, can contribute to a dialog and discussion at all levels in the organization (Simons, 1994).

Autonomous strategic actions

Autonomous strategic actions are characterized by innovative ideas that comes from the employees within the organization and that are radical in the way that can change the company's current strategy. Autonomous strategic actions is described as a process of variation, selection and retention. This means creating an appropriate setting for innovations to arise, imposing a context that helps selecting among the different alternatives and finally adapting the organization to make business of the new innovations by bringing the new radical innovations into the structural context. Much focus is spent on creating an appropriate setting for where innovations can arise. Since, in general, the probability for radical innovations to occur is quite low, one wants to increase the possibilities as much as possible. The culture has been identified as the most important factor behind creating this innovative setting. The strategic concept autonomous strategic actions put much emphasis on motivating the employees to explore and experiment. It is closely related to Simons' (1994) beliefs system, as it is focusing on motivating the members of the organization to explore and experiment beyond the limits of the current strategy. The beliefs system presented by Simons (1994) is built upon strong core values that are shared within the organization. Interest groups, such as projects teams, that bring together people with different training and experience as well as having external collaborations promote variation and thus innovation. The role of the MCS is to create an innovative culture within the organization that encourages this new refined strategy and also motivate employees to continue to grow and develop. Providing slack in the availability of resources and providing formal systems for identifying and supporting new ideas constitute more formal ways of fostering autonomous strategic actions (Davila, 2005). Davila (2005) stresses that strategy is about choosing and that imposing strategic boundary systems make exploration and experimentation more structured.

Strategic innovation

The ideas for strategic innovation come from the top of the organization and are radical in the way that they redefine the company's current strategy. The MCS role is to support this radical change in the company's strategy by for example recruiting the right employees. Thus, it is focusing on being entrepreneurial by discovering new ideas and then exploit them (Davila, 2005). The MCS for strategic innovation is linked to Simons (1994) interactive control system, as the MCS provide information to all members of the organization about the opportunities for radical innovations. As discussed by Lorange et al. (1986, in Davila, 2005), strategic innovation benefits from a MCS that monitor the environment carefully. Top management need to be informed about all the business opportunities that come with for example new technology, changes in regulations and trends in customer needs. The MCS play an important role here, when it comes to for example scenario planning of these different opportunities in the market environment. Additionally, the MCS is also important when it comes to leveraging the learning associated with monitoring of the environment (Davila, 2005).

3.4.2 Critique on the framework

When looking for critique against Davila's framework for use of MCS to foster innovation, nothing is found. It can be questioned why no critique, so far, has been raised in academia against the framework and its components.

4. Empirical findings

The purpose of this fourth chapter is to present the empirical material. The chapter starts with a thorough description of the company background to facilitate the reader's understanding. Thereafter the work with innovation at Axis is described and the timeline for its innovations presented. The chapter ends with a thorough review of how the MCSP is used in Axis.

4.1 Axis Company Background

Axis Communications was founded in Sweden in 1984, starting out as a developer and producer of protocol converters for connecting PC printers to IBM mainframe networks (Axis Communications, 2017b). Already in this beginning of Axis, the founders realized the need to develop an adaptive capability due to the widespread discussions of the "death of the IBM mainframe", leading to the creation of an open and innovative internal environment at Axis. This adaptive capability led to Axis going from number two in the industry of IBM mainframe network printing to expanding their product and service development and production to become pioneers in network connectivity, becoming number two in the industry of network printers and number one in network optical storage solutions between 1990 and 1998 (Axis Communications, 2017b).

It was not until 1996 that Axis started developing cameras, inventing the world's first network camera, the Neteye 200 (Axis Communications, 2017b). The camera was able to produce no more than three frames per minute, however still providing extraordinary benefits for a great number of companies that did not need more and revolutionizing video surveillance by going from analogue into digital. Being the first provider of network cameras they quickly realized that many potential customers were lost due to the inability to integrate the new technology to their existing CCTV (closed Circuit Television) systems. Axis then continued focusing on IP connectivity, resolving the integration issue in 1998 with a video encoder that allowed existing CCTV systems to be integrated to the latest IP technology as well as developing their first own video chip, the ARTPEC-1, in order to be able to improve their network video products' performance. This led to the introduction in 1999 of the world's most popular network camera at the time for five consecutive years and setting the standard for how network products were to be designed (Axis Communications, 2017b).

By 2002 Axis had successfully transformed itself from a connectivity specialist into the global leader in the network video market (Axis Communications, 2017b). Since then Axis has continued to be the global market leader in network video, always being at the technological forefront of the industry (Axis Communications, 2017b; Dahlroth, interview, 19th April 2017). In 2015, Axis was acquired by Canon but is still being run as a separate entity (Axis Communications, 2017b; Fransson, interview, 8th May 2017). The acquisition has led to that Axis has got access to a lot of new technologies and patents, which of course has been very useful (Fransson, interview, 8th May 2017). Today Axis has a market leadership position within the surveillance technology of network video and video encoders, with a turnover of 7,39 billion SEK and over 2 600 employees worldwide in 2016 (Axis Communications, 2017a).

A core component of Axis' business model has been its partnership model. From start Axis has had an indirect sales model that has been refined but kept throughout the years (Axis Communications, 2017b), creating long-term loyal partnerships that provide Axis with market knowledge through open and close dialogue (Axis Communications, 2017a). This allows Axis to rapidly identify and respond to market changes such as new trends, customer segments and business opportunities (Axis Communications, 2017a).

4.2 Innovation in Axis

What can be seen from Axis history is that it is a greatly innovative company with the ability to change focus if needed. Based on Axis' own presentation of company milestones (Axis Communications, 2017b; Axis Communications, 2017c) and the displayed product and microchips timeline in Axis Experience Centre (Axis Experience Centre, 2017), we have made an illustration of the product and service development timeline of Axis since its founding which can be found in Appendix 3. All introductions which can be seen as radically new to the market and/or to the company are presented as new rows, showing exploration, while more incremental developments are presented as extended lines on the timeline, representing exploitation. Axis has followed the strategy of introducing a new line of business with a product built initially from standard components in order to verify the market, before creating their own specialized microchips (or application-specific integrated circuit, ASIC) in order to improve performance, reduce power consumption and reduce cost (Axis Experience Centre, 2017) which can be seen as gaps in the Microchip timeline. The figure (see Appendix 3) was shown for the Global Product Manager, who confirmed that the figure provided a correct view of the company's development history.

A great amount of resources are invested in research and development (R&D) each year, with R&D expenditure amounting to 1 233 MSEK in 2016 of which 77 MSEK was capitalized as development expenditures. Network cameras are still the most important product category, however an increasingly important share of the product portfolio comes from software and solutions (Axis Communications, 2017a). The current focus is described as "a new wave of innovation" (Axis Communications, 2017b), not only focusing on technological improvements but on providing complete solutions to end customers, taking a greater and broader service responsibility (Axis Communications, 2017a). This has led to the creation of the business unit "New Business", which focuses on everything that lies beyond network video, such as network connected speakers, physical access control systems (PACS), IP door stations, analytics tools and Cloud Based connectivity technology called AVHS. Throughout the technological improvements and extended product and service offerings, a key design principle is easy installation and open IP protocols enabling third party development. Although Axis' primary growth strategy is organic growth, recently strategic acquisitions have become a new strategic pillar to Axis. In 2016 three companies were acquired that were identified to supplement Axis' service offering with new knowledge within Network Door Stations (NDS) and analytics tools. The identification, managing and integration of strategic acquisitions also lie under responsibility of the New Business department (Axis Communications, 2017a).

Dahlroth (interview, 19th April 2017) described the development of New Business, starting out as a project aimed at capturing all ideas not related to network cameras. The project constituted a way for any individual within Axis to present ideas and get approval to start up a project. The project-team was then responsible for starting up these projects and to find a temporary substitute for the positions becoming vacant during the period for the new projects. In the beginning there were no limits on what kind of ideas could be submitted, however when the project was redefined as its own function, New Business, certain directives were set in order to get the incoming ideas more focused, (1) it had to be possible to sell through Axis' current distribution network and (2) be related to network connectivity.

The sources of new ideas for innovations are many and Axis actively seeks to catch these ideas. In addition to capturing ideas from within the organization the product managers keep continuous contact with people in their network that have thorough insight in what the customers see as well as keeping a close look on the competitors. For example the Customer Centre and Sales department get information directly from customers, either through complaints or sought after functionalities, and new imposed legislation anywhere in Axis' active markets can lead to the creation of new innovations (Dahlroth, interview, 19th April 2017). Fransson (interview, 28th April 2017) adds that Axis has ambassadors in different regions around the world, with the purpose to be closer to market in order to be able to pick up new trends in customer needs as well as new technology. The product managers are the ones responsible for collecting all these ideas, creating a "wish list" and prioritizing these ideas as well as breaking it down to a "roadmap" outlining what needs to be done and within which timeframe (Dahlroth, interview, 19th April 2017). The roadmaps create the connections between the different functions and the overall strategy. This is done in order to ensure that the focus and direction is united across all the projects in all functions (Bexelius, interview, 28th April 2017). The Global Product Manager explains how he is seeking out new ideas very actively, for example he and his colleagues travel to Japan once a year to get insights in the state of technology. Japan is far ahead when it comes to technology, and these visits have proven very useful in providing ideas and insights that have been used at Axis (Fransson, interview, 8th May 2017).

The way innovations are pursued in Axis is through projects (Bexelius, interview, 28th April 2017; Dahlroth, interview, 19th April 2017; Rasmusson, interview, 25th April 2017). Bexelius (interview, 28th April 2017) argues that the project structure is very useful when it comes to work with innovation as it facilitates quick decisions, which in turn leads to that the product will be out on the market and available for the customers much faster. The projects are based on self-organizing, cross-functional teams that follow an iterative process that aims to streamline the project development and promote continuous learning (Bexelius, interview, 28th April 2017). The projects are completed following a stage-gate model which provide deadlines for the achievement of steps towards the aimed for final functionality (Dahlroth, interview, 19th April 2017; Bexelius, interview, 28th April 2017). The project methodology ensures that the project members are always on track and that the project progress is continually evaluated. The roadmaps help all company functions being "on-board" the project process, so that for example sales know when they should be prepared to enter the process (Dahlroth, interview, 19th April 2017). There does not seem to be any difference in how the projects are managed if the project is engaged in incremental or more radical

innovation (Dahlroth, interview, 19th April 2017; Rasmusson, interview, 25th April 2017). The only differences lie in the size of the projects in terms of time and resources needed and that more radical innovations attract more top management attention of how the project advances (Dahlroth, interview, 19th April 2017). However, the Project Manager thinks that there could be a difference in the tightness of budget targets depending on the level of innovation of a project together with the estimated payback time of the project's innovation (Bexelius, interview, 28th April 2017). This view is to a large extent confirmed by the R&D Director for PTZ, who explain that projects are categorized into "protect", "challenge" and "innovate", which are evaluated from different types of investment calculations. An "innovate" project is when Axis is focusing on totally new ideas in order to build its brand and to push the technological frontier forward. As these "innovate" projects are more of strategic character, these cannot be evaluated with the same investment calculation criteria as the other projects. For example, one can see how the sales increases have a more long-term development horizon than the other types of projects (Jeppsson, email, 12th May 2017).

The market is a central concern in every innovation. Axis focuses on specific segments in their development, for example retail and transport are two of the current eleven customer segments for New Business (Axis Communications, 2017a; Dahlroth, interview, 19th April 2017). If a project is not seen to meet market needs it can be discontinued at any point in the development phase and all people working with innovation are required to meet an end customer within one year to make sure that the innovations created are not disconnected to the ones who are to use the product (Dahlroth, interview, 19th April 2017). The Global Product Manager explained that technological innovations and standards are largely driven by consumer electronics, making it very important to follow. Introductions such as SD memory cards and HD resolution were a result of following the developments on the consumer electronics side (Fransson, interview, 8th May 2017).

"The purchaser is also a family father or mother and if they have heard that ´this is the best technology', then by using this in our marketing, that we also use this technology, we have a link and they recognize it" (Fransson, interview, 8th May 2017).

Axis looks at what the consumer wants rather than what the competitors are doing or what is possible to do with today's technology, "it is not worthwhile to introduce a new technology today if no one understands what it is" (Fransson, interview, 8th May 2017).

However, Axis is not only focusing on new innovative projects, upgrade projects of previous products are seen as equally important. As the competitors tend to copy Axis' success products it is important that a development plan for the follow-up product is formulated immediately. These upgrade projects are seen as quite simple projects, as they know what features need to be upgraded as well as the approximate time horizon for when the needed technology will be available. These refinements of existing products contribute to making sure the competitors do not present better versions of Axis' successful products and keeping up the high sales (Fransson, interview, 8th May 2017). Bexelius (interview, 28th April 2017; email, 3th May 2017) explains that the project category for product development called

"Protect" is focused on upgrading existing products. Thus, protect projects are about protecting the sale you have and to be able to do this Axis needs to identify what it is that actually is protecting the product (Bexelius, interview, 28th April). One solution can be to frequently upgrade the product so that the competitors will remain one step behind. By continuously upgrading successful products with new and improved features Axis make sure that they always are ahead of its competitors (Fransson, interview, 8th May 2017). Bexelius (interview, 28th April 2017) explains that directly after that the first batch of a new product is delivered to the customers, the post-production work starts where they are working on the yield to be able to improve the production and make adjustments. She stresses that the main focus is to quickly get the new product out on the market, before the competitors, after that adjustments can be made or, as she says, "or frankly start focusing on the next upcoming product instead" (Bexelius, interview, 28th April 2017). The "challenge" projects could be described as the opposite to "protect" since these projects are aimed at challenging chosen competitors in certain areas judged as lucrative (Jeppsson, email, 12th May 2017). Thus, the challenge projects starts at the other end, looking at what successful products the competitors have and creating their own versions of these products.

Rickard explained that since Axis is on the technological frontier it is difficult to find possibilities to outsource and to some extent to buy in technology, so it is a balance of outsourcing, partnering up and developing in-house, always looking at what is the most cost-efficient (Dahlroth, interview, 19th April 2017). The recent acquisitions have been made on these premises, judging that the knowledge and technology portfolio gained through these acquisitions are strategic in Axis' broadened focus on "out of the box solutions" and is more difficult or expensive to achieve internally (Axis Communications, 2017a; Dahlroth, interview, 19th April 2017).

4.3 MCSP use in Axis
4.3.1 Cultural controls

The focus on the corporate culture in Axis is very strong, and it is argued that the strong corporate culture is a key factor behind Axis' successful growth as the culture promotes innovation and development (Axis Communications, 2017d). The core of the culture is expressed in three core values or guiding principles; "think big", "always open" and "act as one" (Axis Communications, 2017d; Dahlroth, interview, 19th April 2017). Think big refers to looking outside the box, striving to always improve, expand, challenge and develop. Always open means being open to communication, making it easy to meet and communicate with each other, also across formal hierarchical positions, listening and being open to ideas of others. Finally act as one refers to the cultural component of working together, not focusing on selfish interests but having common strives and common goals (Dahlroth, interview, 19th April 2017; Rasmusson, interview, 25th April 2017). These guiding principles are present throughout the organization, allowing communication, and transparency over all functions. When Rickard Dahlroth first started in Axis, the organization was small enough for everyone to gather in the assembly hall for weekly updates on all the important matters, however now it is up to the different managers to make sure the transparency is kept and that all the guiding principles are followed and understood in their function (Dahlroth, interview, 19th April 2017). To bring the entire organization together, Axis engage its employees in many

different gathering events, workshops on the core values and every year follow-ups and evaluations are made based on the core values (Axis Communications, 2017d; Dahlroth, interview, 19th April 2017; Rasmusson, interview, 25th April 2017). For Axis it is vital to actively work to fortify its core values among all employees to be able to continue its rapid growth and global expansion (Axis Communications, 2017d).

When it comes to new ideas and innovations the core value "Always open" is central. Fransson (interview, 8th May 2017) explains that he is always keeping his door open and that he encourages the engineers to tell him about their ideas. At least once a week an engineer walks into his room to tell him about a new idea, and these kinds of conversations are always prioritized even if something else is scheduled. He argues that this is an important statement in order to show that new ideas always are welcome and given the highest priority. Additionally, innovation-days are arranged at Axis to encourage creativity as well as further showing that new ideas and innovations are encouraged and prioritized (Fransson, interview, 8th May 2017). Failure is seen as an important part of learning and Axis thus provides a culture accepting of failure (Fransson, interview, 8th May 2017). To promote the open culture the breakfast also plays an important role as it encourages communication, interaction and collaboration between the employees (Handelskammaren, 2013; Bexelius, interview, 28th April 2017; Fransson, interview, 8th May 2017). Also, the open office design and multiple areas for interaction foster the cultural values of Axis (Dahlroth, interview, 19th April 2017).

Another essential element in fostering the corporate culture is through recruiting the right employees. A lot of effort is put into finding and recruiting employees that fit Axis' culture and values (Handelskammaren, 2013; Bexelius, interview, 28th April 2017; Rasmusson, interview, 25th April 2017), "HR works a lot with teaching the culture to the new ones coming in but a lot of work is done already in the recruiting" (Bexelius, interview, 28th April 2017; Rasmusson, interview, 25th April 2017). This is especially important for a company growing at the speed that Axis is growing, in order to keep the culture from changing in an unsolicited way (Bexelius, interview, 28th April 2017).

4.3.2 Planning controls

The planning in Axis looks a bit different depending on which function you study. The functions directly involved in innovation, New Business and Products and CTO, have their planning completely circled around the projects they are involved in while the other departments have a planning more based around activities needed to meet the forecasted growth of Axis (Dahlroth, interview, 19th April 2017). Three levels of planning are used in the functions focused on innovation: business plans, roadmaps and project plans.

Top management have defined the overall strategic framework in which Axis is to operate such as the vision, "innovating for a smarter, safer world", and the focus on network connectivity, but are not involved in the detailed plans of what is to be done and how (Dahlroth, interview, 19th April 2017). The senior management does however have product managers that are responsible for creating a business plan for the upcoming 12 months, based on all the information, ideas and inputs picked up, determining broadly what trends

are to be seen in the coming year (Fransson, interview, 8th May 2017). Business plans are also created for the upcoming 24 and 36 months. However, the Global Product Manager stresses that it is hard to create a business plan with such a long horizon, as new features and ideas constantly are coming up. Sometimes the CTO presents directives of things he wants to see in the business plan for a certain product group in which case these directives of course needs to be taken into consideration. The business plan is presented to the product group steering committee and when approved, it is used in formulating the previously mentioned roadmap (Fransson, interview, 8th May 2017).

The roadmap constitutes the overarching plan for the projects to be undertaken in the upcoming 36 months and is revised every sixth month. The Roadmap function as a way to get the product managers to put their ideas down on paper, because there has to be a plan for the company onwards (Fransson, interview, 8th May 2017). Every week the product managers meet to discuss their current projects, status and matters of concern in order to coordinate the different product groups' innovation endeavours (Fransson, interview, 8th May 2017). The R&D Director for PTZ Cameras explains that they aim to create realistic and slightly optimistic roadmaps, so that they should be able to execute all the proposals (Jeppsson, email, 12th May 2017). The roadmaps are detailed in the sense that they define what is aimed for during the period and are broken down into product proposals which in turn provide the basis for project planning; providing deadlines and assigning project teams (Bexelius, interview, 28th April 2017). However since the projects are aimed at innovation, there is no way to elaborately plan how the process will progress and it recurrently happens that new details or innovations occur during a project that alters the original project plan and product proposal (Bexelius, interview, 28th April 2017; Dahlroth, interview, 19th April 2017; Fransson, interview, 8th May 2017). The product proposal does not provide any technical details more than the basics, for example that the product should be able to be connected to a network. Instead, the product proposal describes the vision of the product, providing guidance in what is aimed for. The Global Product Manager stresses that by only explaining the vision of the product for the engineers they will be able to think freely and not be tied to technical details. He usually also write that he wants "never seen before"-features in his product proposals, which put some pressure on the engineers to come up with ideas about what the new feature could be, sometimes they succeed and sometimes not, however the important thing is to stress the need and wish to push the boundaries (Fransson, interview, 8th May 2017). The projects specifically focused on creating something never before seen are classified as pure Innovate projects (Bexelius, interview, 28th April 2017). The project progress is followed up weekly. If changes are proposed, times are not held or any other aspect is not according to plan there is dialogue as to why this is and how to proceed (Bexelius, interview, 28th April 2017; Dahlroth, interview, 19th April 2017). Thus it is a dynamic process with constant communication.

4.3.3 Cybernetic controls

Budgets, or rather rolling forecasts, are a central part of the management control throughout the organization (Dahlroth, interview, 19th April 2017; Rasmusson, interview, 25th April 2017). There is no real difference between how the budgets are used in the different functions only that the two functions focused on innovation have budgets directly

distributable to all its projects instead of the activity based budgets of the other functions (Dahlroth, interview, 19th April 2017). Budgets are followed up monthly in all functions with the controller (Dahlroth, interview, 19th April 2017; Jeppsson, email, 12th May 2017) and if changes are sought, the budget is not kept or any other aspect is not according to plan there is dialogue as to why this is and how to proceed (Dahlroth, interview, 19th April 2017). The R&D Director for PTZ Cameras explains that the meetings provide the Directors with information about how everything is going, so that they can assign actions and resources to where it is needed. Thus, the information from the meeting provides them with guidance about "go ahead" or "no go" decisions in the day-to-day decisions (Jeppsson, email, 12th May 2017). The way budgets are used is closely connected to the way the planning is built up. Resources are divided according to the most pressing need in Axis and managers have a mandate to redistribute resources in order to make sure the most efficient and effective use of resources (Bexelius, interview, 28th April 2017; Dahlroth, interview, 19th April 2017).

The project manager explained that the use of budgets is not very strict at the project level. Due to the iterative process, constantly communicating with the steering committee of the project, there is continuous deliberation on how to proceed and make trade-offs to stay within budget or increase the budget (Bexelius, interview, 28th April 2017). If a certain function is sought after and/or a specific timeframe is set there is no problem to get the budget increases needed (Bexelius, interview, 28th April 2017). Jeppsson (email, 12th May 2017) stresses that the budget for the product segments should be followed. Some projects will be over budget and some under budget, which is acceptable as they are looking at the aggregated result of all projects. Further she explains that it is important that the projects is reflecting around the costs that is related to their actions, it is fine to take on costs but they have to be conscious. Thus, a project should not use up the assigned resources just because they are under budget, these resources should instead be used in another context, as another project maybe need to take on some extra costs (Jeppsson, email, 12th May 2017).

"In practice there is not much focus if over budget, rather a focus on why they [the costs] have arisen, for example, 'we have a problem with X, how should we solve it' and so on. There is not much focus on the costs, as I said. This is because it is an innovation company that is successful, where the focus is more on getting to the market quickly instead of controlling costs" (Bexelius, interview, 28th April 2017).

Neither the Global Product Manager expresses that he is affected by the budget. He stresses that it is more about that the resources in form of engineers are limited, so when a project-team is available he has to prioritize which product proposal they should focus on first (Fransson, interview, 8th May 2017). As previously mentioned, the estimated payback time seems to have an effect on how the budgets are used. When the payback time is as short as is most often the case for Axis there is not much need to keep a strict budget, however, for products with longer payback times, such as accessories, the budget is more important (Bexelius, interview, 28th April 2017). The R&D Director for PTZ Cameras, who is responsible for PTZ's budget, explain that they are looking at some factors in the different segments to be able to balance the budget in the best possible way. For example, they analyse if they need to focus more on a specific area and how old the products are in the different segments. Decisions are made about if it is time to update some product line with the latest

technology, in order to increase the sales. Additionally, when deciding on how the budget should be balanced they are also looking at sales figures, trends and buying patterns in the industry (Jeppsson, email, 12th May 2017).

4.3.4 Rewards and compensation

Informal rewards are used rather frequently. Finding things to celebrate is seen as an important aspect of feeling inspired, acknowledged and appreciated, "You work towards something and then you celebrate, instead of feeling that we have worked with the same thing for 20 years without achieving something" (Dahlroth, interview, 19th April 2017). These informal rewards can be directed towards the acknowledgement of individual efforts or group efforts, however the celebration is a shared event. It is up to each respective manager to find things to celebrate (Dahlroth, interview, 19th April 2017).

Formal monetary rewards are used for the application and approval of new patents (Olofsson, email, 3rd May 2017; Olsson, email, 3rd May 2017; Rasmusson, interview, 25th April 2017). The monetary reward is divided into two steps, first a percentage of the amount is rewarded at the entry of a new patent application that is deemed reasonable, then the remaining amount is paid if the patent is approved (Rasmusson, interview, 25th April 2017). Fransson (interview, 8th May 2017) explains that the amount is an extra monthly salary, and besides that the employee also gets his name as the inventor on the paper for the patent. This formal reward is meant to encourage employees to innovate, showing that new patents are important milestones and trying to further ensure that all good ideas are collected and none are missed (Dahlroth, interview, 19th April 2017; Rasmusson, interview, 25th April 2017). These formal rewards can be both on an individual or group level depending on the circumstances behind the patent (Fransson, interview, 8th May 2017; Rasmusson, interview, 25th April 2017). Additionally there is also a non-monetary reward for the ones who have sent in an application for a new patent. This consists of an annual presentation and dinner, where the innovative employees are celebrated (Fransson, interview, 8th May 2017; Olofsson, email, 3rd May 2017; Olsson, email, 3rd May 2017).

4.3.5 Administrative controls

The organization has a functional structure divided into eight functions (Dahlroth, interview, 19th April 2017). Two separate functions are focused on innovation: Products & CTO and New Business. Products & CTO are focused on innovations regarding network video and associated software, while New Business focus on everything outside Network Video aiming to broaden the product and service offering to create more all encompassing solutions for chosen customer segments (Dahlroth, interview, 19th April 2017). Further, these two functions are divided into product groups, meaning they have different responsibilities in terms of what to develop (Bexelius, interview, 28th April 2017).

The top management is setting the overall strategy and long-term vision of the company, however the grassroots level have rather free hands on how to make this set strategy and vision happen (Dahlroth, interview, 19th April 2017). The organization structure is hierarchical but the openness of the corporate culture makes the company appear as having

a more flat organization structure (Dahlroth, interview, 19th April 2017; Fransson, interview, 8th May 2017). As mentioned the innovations are managed in projects, giving rather free hands within a project phase while still keeping a constant evaluation of the projects at the end of each toll gate, and usually more often than that (Bexelius, interview, 28th April 2017; Dahlroth, interview, 19th April 2017).

4.3.6 The MCSP identified at Axis

In order to summarize the empirical findings on the MCSP in use we have made Figure 3 based on the Malmi and Brown (2008) MCSP framework. To validate our findings the first version of the figure was shown to the Global Product Manager, who endorsed that we had identified and understood the key control systems present at Axis. What we have added to the framework by Malmi and Brown (2008) is an indication of the importance of each specific MCS as we felt this would be a valuable contribution in providing a more informative view of the MCSP identified in Axis. The more central the MCS, the more elevated it is presented in the figure.
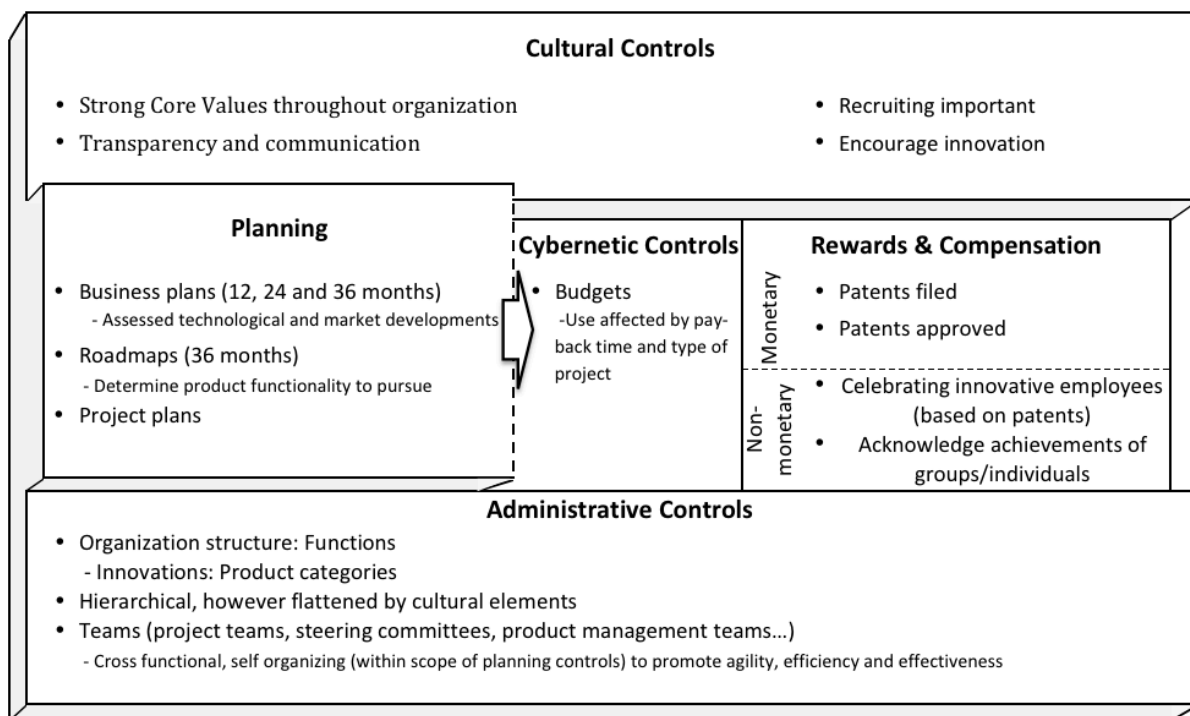
Figure 3. MCSP identified in Axis (own elaboration based on Malmi & Brown, 2008 p.291).

We can see that elements from all MCS categorizations by Malmi and Brown (2008) are present. However, it is worth mentioning that both financial, non-financial and hybrid cybernetic controls are absent. This means Axis has chosen not to adopt any of the cybernetic control systems that have gained extensive attention and popularity both in academia and practice over the past decades, such as the Balanced Scorecard (BSC). Instead planning has reoccurred as a core element of control at all levels of the organization, thus appearing to be at the heart of the MCSP. This is followed by cultural and administrative controls, which appear to have a clear significance on the control of the company, having

strong core values and teams as central management tools. The cybernetic controls as well as rewards and compensation have a more peripheral role where budgets are used, however not particularly strictly, and having rewards that are not connected to any cybernetic control system or specific target, but to the occasional occurrence of an idea being filed and/or approved for patenting. The dotted line between planning and cybernetic control in Figure 3 accentuates the close relation between them and the arrow shows the direction of the relation, where budgets are assigned according to the roadmap and project plans when it comes to innovation, while for other areas budgets are made through usual budget forecasting.

5. Analysis and discussion

In this chapter the empirical findings are discussed and analysed against the theoretical foundation in order to answer our posed research question.

5.1 Achieving ambidexterity in Axis

As illustrated in the Axis innovation timeline (Appendix 3), Axis is a company which has combined exploration and exploitation, both in terms of radical ideas within its given field but also looking beyond their current strategy, and making incremental developments to existing product offerings. Axis has been able to survive and thrive over the past decades. By pushing the development on the market, repeatedly redefining what can be done within network video, and not being afraid to change or expand their focus if needed, it seems that Axis has the agility to meet both current and future demands.

Looking at how ambidexterity has been achieved in Axis in terms of modes and approaches to ambidexterity, a few interesting observations can be noted. At a first glance, it seems rather obvious that what O'Reilly and Tushman (2013) describe as a structural approach to ambidexterity is used in Axis, where the organization is divided into subunits allowing for simultaneously pursuing exploration and exploitation. Axis has separate units involved in different kinds of innovation, in Axis' case however the subunits engaged in innovation are divided into product groups where each product group is more or less balancing exploration and exploitation individually, instead of focusing on one or the other specifically. The way structural ambidexterity is realized in Axis seems to be through the projects; each project has its defined focus where some projects are aimed at exploratory outcomes and others at exploitative outcomes. The projects allow each product group subunit to simultaneously balance exploration and exploitation. Thus, the approach to ambidexterity resembles that of the structural ambidexterity described by O'Reilly and Tushman (2013), however at a project team level instead of subunit level.

Axis actively seeks new ideas from all individuals throughout the organization. The open culture and active encouragement of new ideas facilitates the possibility of these ideas actually coming through. The ideas can be of radical or incremental nature and lead to a "pool" of new ideas. Combined with constantly spanning the environment, knowledge of what can be done with current competences and what they want to do in the future, Axis has an abundant foundation for determining what to do next, picking elements of exploitation as well as exploration that fit the assessed direction forward, still being flexible enough to change this direction if necessary. Axis clearly rely on alert individuals, both in terms of coming up with new ideas as well as picking up relevant information from their immediate environment, for example sales personnel talking to customers. The product managers constitute a central role in the achievement of ambidexterity by being responsible for capturing all ideas and input and to create the business plan and roadmap. However, as Fransson (interview, 8th May 2017) explained, the product proposals presented to guide the projects are visions rather than specifications, allowing for much freedom in terms of development. Also, almost all product proposals have an included aim for something "never before seen", but it is up to the project members to achieve this or not (Fransson, interview, 8th May 2017). Hence, the approach to ambidexterity in Axis might not be as

straightforward as first seemed, rather it might represent a version of the combined approach to ambidexterity, where structural and contextual elements are used simultaneously.

The description by Agostini et al. (2016) on how to apply a combined structural and contextual approach seems to comport with Axis. The organization is integrated around a culture formed by top management, providing a context supporting the individuals' balancing of exploration and exploitation, while having organizational structures, plans and teams that provide a structure and context to resolve tensions and provide a focus for the individuals. The way Axis approaches innovation thus provides an empirical example of how a combined structural and contextual approach to ambidexterity can be attained. The importance of MCSP elements seems to be central, such as the culture and administrative controls. The actual balancing of exploration and exploitation takes place on several levels of the organization where the constant search for ideas, input and environmental developments provides the ability to make informed decisions on how to move forward and make incremental as well as radical innovations.

Further, all three modes to ambidexterity, internal, alliance and acquisition (Duval, 2016), have been observed. What has been discussed so far has concerned the internal mode to ambidexterity, however, we can see how O'Reilly and Tushman's (2013) claim of intra- and inter-organizational approaches to ambidexterity being complements rather than substitutes is the case in Axis. Partnerships are an important source of innovation, which can be classified as an alliance mode to ambidexterity. Fransson (interview, 8th May 2017) described how close relations with suppliers have led to the development of product offerings, if a supplier presents something radically new this could become a radically new innovation for Axis as well. Also, strategic acquisitions have been described as a central way to ensure the availability of valuable new knowledge and technologies to meet their broadened focus on out of the box solutions when assessed to be more cost effective than to achieve this internally and more strategic than to outsource.

Hence, Axis approaches ambidexterity from several angles, both internally and inter-organizationally. Looking to theory it seems Axis make use of the reinforcing effect possible from combining contextual and structural approaches (Agostini et al., 2016) as well as complementing the internal capabilities with external capabilities by using both intra- and inter organizational modes to ambidexterity. This comprehensive way of approaching ambidexterity has proved effective for Axis and it seems likely that this way of approaching ambidexterity would be preferable for more companies as the resulting abundance of information, ideas and alternatives to act upon provides a solid basis for achieving ambidexterity.

5.2 Axis' MCSP and Ambidexterity

From the illustration presented in Figure 3 of the MCSP identified in Axis it is evident that elements from all MCS categorizations by Malmi and Brown (2008) are present. The importance of each MCS identified has been discussed briefly in 4.3.6 and is shown in the

figure. However, the importance of each MCS is for our study twofold, (1) how much emphasis seems to be put on a specific MCS, i.e. how is it used and perceived, which is what has been touched upon. This helps understand (2) how the particular MCS appears to influence the achievement of ambidexterity in the current MCSP setting.

Beginning our analysis at the top of the MCSP framework, the cultural controls seem to be a core component of Axis' control system. The culture is expressed as important by all interviewees as well as on the company website and annual report for Axis success and innovativeness. Through the interviews it also became clear that there is a great focus on maintaining the culture through recruiting, socialization processes, office design, follow-ups and putting the core values into practice through the day-to-day activities of managers. The culture is very aimed at promoting transparency, communication and innovation, encouraging continuous learning and pushing the limits and showing acceptance towards failures as they are seen as part of the learning process. This corresponds well with how cultural controls have been found to promote exploration (Gschwantner & Hiebl, 2016). Gschwantner and Hiebl's (2016) finding that cultural controls are most appropriately used for fostering exploration suggests Axis' culture is an important element of the achievement of ambidexterity. Also, as culture has been seen to partly substitute for more formal controls (Gschwantner & Hiebl, 2016), the strong culture in Axis could explain why the use of formal controls is relatively scant.

Planning controls seems to be at the heart of Axis' MCSP. The planning controls used in Axis operate on several levels. The business plans define the future focus in terms of technological and market developments and get the go-ahead from the product group steering committee. Thus the business plans constitute a way to make sure Axis' strategy and current interests are followed. The roadmaps break down the business plans into more executional steps, which lay the foundation for the project plans. Thus, the plans are formulated by middle management (product managers), sometimes being influenced by senior management (CTO), discussed and eventually accepted by senior management (product group steering committee) and then broken down by middle management to lower levels of the organization. Hence, the planning is to a large extent formulated with senior management involvement. However, as the ones responsible for formulating the plans (product managers) are also the ones collecting all ideas from inside and outside the organization, they can be influenced by ideas presented by grassroots level of the organization. Also, the rather undetailed plans as well as the often provided specified aim of something "never before seen" (Fransson, interview, 8th May 2017) leaves it up to the project team members to what the exact outcome of a specific project is, be it of radical or incremental nature. However, the classification of the projects, "protect", "challenge" or "innovate", can affect the nature of the innovation resulting from a certain project. This is partly due to the outlook on what is expected to be achieved but also through the categorization's effect on the budget, which is discussed below. The high level of interactions stemming both from the corporate culture and the interactive design of the planning process as well as follow-ups on the progression, keep all levels of the organization in tune of aims and objectives as well as of how things are progressing. Determining what effect the planning has on the achievement on ambidexterity is not entirely straightforward. From Gschwantner and Hiebl's (2016) findings we can see elements promoting both

exploration and exploitation. On the one hand, the planning has a great focus on Axis' objectives, starting with the business plan and senior management involvement, thus restraining employee freedom of action by providing the borders within which innovation should take place and specifications that need to be met. This corresponds to facilitating exploitation (Gschwantner & Hiebl, 2016). On the other hand the planning used in Axis also serve the information of employees and provide a basis for open communication and discussion of current action plans, given the dynamic nature of the product content, and thus project content, which can be influenced by the project team members. This more corresponds to facilitating exploration (Gschwantner & Hiebl, 2016). It could be that the planning in Axis has a balancing effect on exploration and exploitation by providing elements facilitating both. Axis plans for both radical and incremental innovations, but also let the individuals involved influence the outcomes through the dynamic and interactive nature of the plans and projects and allowing changes to the originally planned specifications. The planning thus seems to be closely related to the combined structural and contextual approach to ambidexterity discussed in 5.1, by making use of individuals and different projects to balance both exploration and exploitation.

The Director and Head of Business Control described budgets as the central part of the management control system. Indeed it is the only MCS present in the cybernetic controls category, which are traditionally seen as the control tools available to managers, however from the interviews it became clear that the budgets are often not a critical concern. The Global Product Manager had no budget to follow and the Project Manager for New Video Products expressed that there was not much focus on the budget at all. However, the strictness of following the budget appears to be influenced by the type of project at hand and the estimated payback time of the products. If the payback time is estimated to be short there is no difficulty for the Project Managers to increase the budget, however, for the projects classified as "innovate" projects the time horizon is allowed to be longer as these projects are seen as strategic, even though they tend to have a slower sales growth, be more expensive and thus have a longer payback time. Thus, the role of the budget seems to be to make sure that the projects with longer payback time and a lesser long-term strategic significance are still profitable. For the other projects the budget is just a guideline, which can be altered according to the project's development progress. According to Gschwantner and Hiebl (2016) cybernetic controls can be useful in influencing the balance between exploration and exploitation, depending on how they are designed. In Axis' case it is hard to say how the use of budgets influence the achievement of ambidexterity apart from aiming to ensure current profitability of the product portfolio offered at any point in time. The lack of focus on budget can be due to the fact that the payback time for most project are so short so that exceeding the budget does not really affect the profitability in the end, rather it is a strategic decision in order to be first to the market. Bexelius (interview, 28th April 2017) expressed this thought that since Axis is currently such a successful company the focus is on innovating and getting to the market quickly instead of controlling costs. Thus, cybernetic controls seem to have a limited importance in terms of control and in achieving ambidexterity in Axis. However, the budgets' close relation to planning controls helps develop the basis for communication and bring in the aspect of profitability. Thus, although the budgets do not appear to be individually central to achieving ambidexterity in Axis, they do seem to complement the planning controls in balancing exploration and exploitation.

Also, although costs are a limited concern at the moment it could become more important in the future if markets mature and competition increases further, making budgets a more central control tool.

Rewards and compensation in Axis are mainly focused on innovations. The only monetary rewards used are for filed and approved patents. Also, the individuals that have filed patents are acknowledged yearly on the dinner event. Otherwise, it is up to each respective manager to decide on things to celebrate. Thus, the only specified basis for rewards are innovations, and more specifically new patents. Hence, the intention of these rewards is to further emphasise the encouragement of innovativeness. Gschwantner and Hiebl (2016) argue that rewards and compensation need be used with care as these controls come with the risk of distorting the balance between exploration and exploitation. In Axis' case this would mean the risk of distorting the balance more towards exploration. Whether or not this is the case is hard to prove, however, since coming up with ideas appropriate for patent filing is a difficult feat, it seems unreasonable that extensive focus will be aimed at coming up with such ideas and set aside exploitative innovation. Rather, these rewards could create an alertness towards which ideas could be patented. Nevertheless, it is clear that the main effect on ambidexterity of the rewards present is fostering exploration.

The administrative controls present in Axis are closely aligned to, and affected by, the previously discussed parts of the MCSP. The organization structure and governance structure is very hierarchical on paper, however, given the effect of Axis' cultural controls and interactive elements of the planning, the actual perceived organization in practice is primarily flat. Employees can, and are encouraged to, communicate across hierarchical levels. Individuals are assigned specific areas of responsibility but much responsibility is also shared among team members. Teams are an important part of the administrative controls as plans are evaluated, discussed and coordinated in teams (product group steering committees and the product management team meetings) and innovations are pursued in project teams. Axis' administrative controls create the setting where structural ambidexterity can be achieved, where the project approach to innovation appear essential, as discussed in 5.1. The project approach to innovation used in Axis provides the prerequisites for achieving the aimed for specifications by combining cross-functional knowledge and self-organizing, promoting agility, efficiency and effectiveness in the pursuit of innovation. Thus, the administrative controls aid the achievement of ambidexterity both through providing the structural conditions needed as well as having an important complementary role to the planning in Axis.

Having analysed the identified MCSP in Axis we can reflect upon the joint effect of the MCS in use on achieving ambidexterity. Interesting to note is that we have found no individual MCS specifically fostering exploitation while two MCS are found to specifically foster exploration, namely cultural controls and rewards and compensation. This indicates a slight bias towards exploration. However, considering the seemingly limited centrality of the reward system in Axis, previously discussed, the appropriateness of using the cultural control to specifically foster exploration (Gschwantner and Hiebl, 2016) and the fact that the balance is most often skewed towards exploitation (March, 1991; Levinthal & March, 1993 and O'Reilly & Tushman, 2013), this seeming bias towards fostering exploration through the

MCSP is not necessarily inappropriate. The remaining three MCS categories in the MCSP framework (Malmi & Brown, 2008) have been found to aid in balancing exploration and exploitation of which one, the budgets, is merely of limited importance in complementing the planning. However, the balancing effects of these MCS are not primarily derived from the isolated design of each MCS. Rather it is a result of an extensively interactive use of these MCS, as described by Simons (1994), together with effects from the combined use of the different MCS. From our analysis it seems like three parts of the MCSP are the most central in fostering innovation and achieving ambidexterity: cultural controls, planning and administrative controls. These MCS appear to complement each other and create synergies that aid the achievement of ambidexterity. In isolation these MCS would thus probably have had different effects. Whether this would obstruct Axis' ambidextrous ability is not possible to say, however, it is possible to claim that their current use of a MCSP is effective in fostering this ability.

5.3 The influence of strategic concepts for MCS on innovation

The framework by Davila (2005) has been useful in our case as it connects MCS, or in this case MCSP, to innovation. By analysing our findings through the lens of Davila's (2005) framework we can see whether Axis' use of a combination of MCS is in line with Davila's (2005) proposed relation between MCS and innovation and get an additional angle on our analysis of the effect of the MCSP on the achievement of ambidexterity.

Through this study it is clear that Axis is operating in the strategic context, as they are open to new ideas and willing to try out new things even if it lies outside their current strategic focus. Top management is not coordinating the actions so as to be in line with the current business strategy, which would be the case if Axis were operating in the structural context (Davila, 2005). In contrast to the straightforward determining of the type of innovation defining strategic change in Axis, it is not as straightforward determining the locus of innovation. It has been found that the ideas about innovations come from the employees, mainly the engineers, within the organization. However, it has also been seen that these ideas always are communicated to upper-level first, in order to get an approval to start exploring the idea. Since all levels of the organization are involved in defining the type of innovation for each project it becomes difficult to define where the most prominent contribution comes from. Thus, the question if Axis is using the strategic concept autonomous strategic actions or strategic innovation is not easy to answer as they are having characteristics of both concepts. An analysis around the two strategic concepts will follow with the purpose to clarify which of them Axis is mainly using. As pointed out by Davila (2005), the organization has to choose one of them.

Strategic innovation is characterized by that the ideas are radical in the way that it redefines the current strategy and that innovative ideas come from top management (Davila, 2005). We have seen signs for this in the case of Axis, for example when top management decided on creating the department New Business, in order to try out things outside its current strategy. This is an example of the top management defining a new strategy, setting new boundaries for the strategic focus. As explained by Davila (2005) the role of the MCS in strategic innovation is to support radical changes by for example recruiting the right

employees, which to a very high extent is applicable in the case of Axis. Axis is also constantly working with monitoring the environment, for example by traveling to Japan to get inspiration of new technology and new trends and listening to market needs by keeping a close dialogue with its regional ambassadors and the sales department as well as its distributers and integrators amongst others. Lorange et al. (1986, in Davila, 2005) pointed out that strategic innovation benefit from a MCS that monitor the environment in the way Axis is doing, in order for top management to be aware of for example new technology or trends in customer needs. Davila (2005) argues that the MCS is important for the leveraging of learning that is associated with monitoring the environment. Finally, it has been stressed that strategic innovation is closely linked to the interactive control system presented by Simons (1994). Axis is very much focusing on encouraging learning and development of new ideas and the importance of the extensively interactive elements of Axis MCSP was discussed in 5.2, clearly showing a significant use of interactive control systems.

Hence, several characteristics of Axis consort with the strategic concept of strategic innovation. However, strategic innovation does not fully acknowledge the significance of the employees for radical innovations in Axis. The strategic concept autonomous strategic actions is characterized by innovative ideas coming from individuals or small groups within the organization, and that these ideas can change the company's current strategy in a radical way (Davila, 2005). Davila (2005) stresses that autonomous strategic actions can happen anywhere in the organization without top management being aware of it, which has been seen to be the case in Axis. As has previously been discussed, individuals on all levels of the organization are part of realizing the innovations in Axis, however, the innovations mainly emanate from the engineers, i.e. lower levels of the organization. In Axis, much focus is directed towards motivating the employees to explore and experiment. This relates to Simons (1994) beliefs system and is something Davila (2005) argues to be important characteristics for autonomous strategic actions. The only boundaries for innovations in Axis are that they should be related to network connectivity and be possible to sell through Axis' current sales channel, which seems to be providing focus rather than being restraining. As Davila (2005) stresses, strategy is about choosing, and imposing strategic boundary systems make exploration more structured in the autonomous strategic actions. Autonomous strategic actions is described as a process for variation, selection and retention, creating an appropriate setting for innovations to arise, imposing a context that helps selecting among different alternatives and finally adapting the organization to make business of the new innovations (Davila, 2005). Axis has created a MCSP that constantly motivates and encourages the employees to develop, imposed boundaries within which innovation should be focused and has successfully commercialized the new innovations and broadened strategic focus. Additionally, the fact that Axis bring together people in project teams with different training and experience, provide slack in the availability of resources, have external collaborations and provide formal systems for identifying and supporting new ideas are according to Davila (2005) other indications of an organization operating in the strategic concept autonomous strategic actions. Thus, although Axis show characteristics of both types of strategic concepts, after some further analysis on the subject it seems the locus of innovation lies in the day-to-day actions rather than top-management. Innovations come from the employees in a direct way, while top management make decisions that lead to new innovations in an indirect way. Thereby it can be stated that Axis is currently within the

strategic concept of autonomous strategic actions. However, Davila (2005) argues that this does not have to be seen as a static state, as the organization dynamically can move from one strategy to another.

One of the reasons for why it is important to decide on which of the strategic concepts the organization is using, is because what is seen as the most appropriate MCS, or in this case the MCSP, differs between the concepts (Davila, 2005). For Axis, as well as other companies operating in the strategic concept autonomous strategic actions, the role of the MCS is to create an innovative culture within the organization where the employees are motivated to grow and develop. In this regard, it is clear that Axis has succeeded. What is worth noting is the resemblance between the autonomous strategic actions described by Davila (2005) and the theory on contextual ambidexterity described by O'Reilly and Tushman (2013). Both theories emphasise the centrality of the individuals and while Davila (2005) does not discuss the balancing of exploration and exploitation, he does discuss retention as part of autonomous strategic actions. In the retention stage new radical innovations in the strategic context are brought into the structural context, thus implying more incremental developments. Hence, both exploration, in the form of radical innovations, and exploitation, in the form of incremental innovations, are part of autonomous strategic actions. Davila's (2005) framework does not add to our theoretical basis of how the balancing between exploration and exploitation is achieved, however it adds to our discussion by accentuating and further explaining the role of the MCSP in promoting individuals' autonomy in innovation. By illustrating how Axis' MCSP provides a mandate for radical innovations on an individual level, the framework can also be seen to reinforce our assertion that a contextual approach to ambidexterity is present in Axis.

5.4 Discussion of Findings

Several points can be lifted following the analysis of ambidexterity and the MCSP in Axis. Firstly, Axis seem to operate to a large extent according to theory. Evidence has been found of a combination of contextual and structural approach to ambidexterity as described by Agostini et al. (2016), the adoption of several different MCS constituting a package which can be defined and illustrated using Malmi and Brown's (2008) MCSP framework, as well as confirming many of the findings by Gschwantner and Hiebl (2016) on how different MCS can be effectively combined in a MCSP to create synergies which foster the achievement of ambidexterity. However, at the same time some findings lift elements that have not been implied in current theory. For example, that combining all modes to ambidexterity with a combined contextual and structural approach to ambidexterity, which essentially means taking on the widest possible approach to achieving ambidexterity, can be such an effective way of achieving ambidexterity. O'Reilly and Tushman (2013) suggest a complementary nature of internal and external approaches to innovation, however, our findings further specifies this discussion to suggest that all modes to ambidexterity (internal, alliance and acquisition) discussed by Duval (2016) are complementary as well as their compatibility with the combined structural and contextual approach to ambidexterity. Also, the use of projects in structural ambidexterity is something that has not been stressed in current literature, however, being seemingly central in Axis' case.

The findings by Gschwantner and Hiebl (2016) are extended from our findings by suggesting that ambidexterity can be achieved without combining MCS with completely opposing effects on exploration and exploitation in a MCSP. Instead, the synergies created by the MCSP can lead to individual MCS having a balancing effect, rather than specifically facilitating either exploration or exploitation. In Axis' case we have found that planning seems to be the core component of the MCSP facilitating ambidexterity, as it appears to have a balancing effect on exploration and exploitation. This balancing effect, however, would probably not have been achieved without the effects coming from combining planning with the cultural and administrative controls. The cybernetic controls and rewards and compensation seem to have a mere complementary role in the achievement of ambidexterity.

Further, using Davila's (2005) framework for MCS effect on innovation gave additional support for Axis' MCSP being successful in promoting exploration stemming from the individuals in the organization. The link between Davila's (2005) framework and ambidexterity has not been made in any of the articles found, however, even if this framework does not help confirming the balancing effect of the MCSP, we claim that it does give further insight on how the MCSP is connected to the contextual approach to ambidexterity as observed in Axis.

Thus, through our findings we claim that the MCSP in Axis does promote ambidextrous ability in several ways. In order to summarize our findings we present a model of our findings in Figure 4. Although our findings may not be generalizable and provide a map for designing a MCS or evaluating the MCSP present in every context and type of organization, this study does constitute a step towards such understanding.
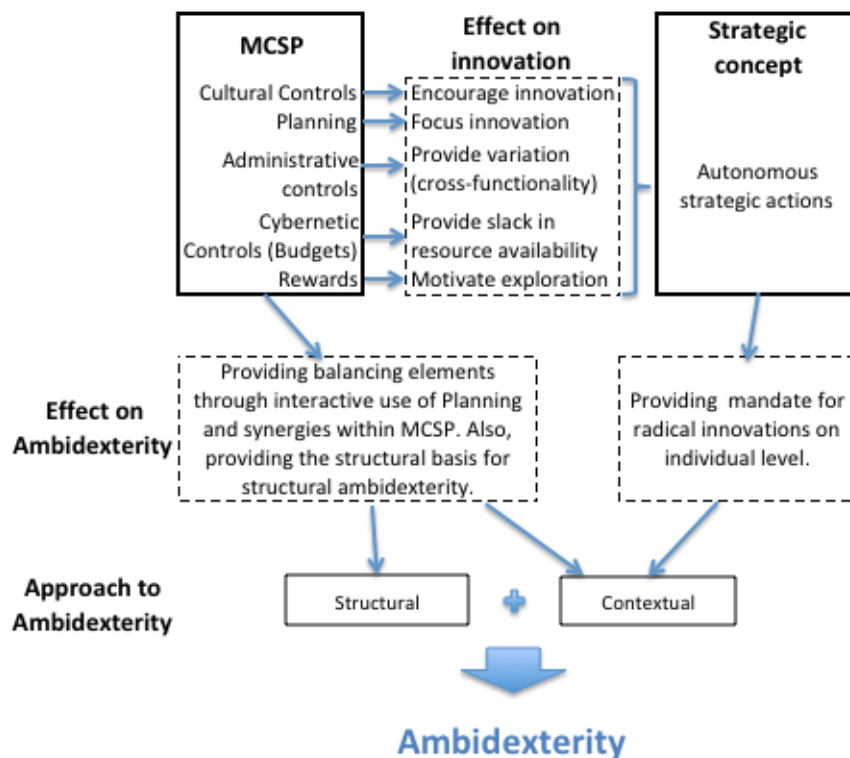

Figure 4. Summary of findings: the effect of the MCSP on achieving ambidexterity in Axis.

It is important to note the setting in which Axis operates when evaluating the findings in this thesis. Axis operates on an extensively volatile market, driven by fast technological developments and increasing demand for surveillance technology, and specifically network surveillance technology. In this setting the need for exploration might be somewhat greater than the need for exploitation, meaning the balance between exploration and exploitation might be somewhat skewed. This could explain why, for our findings, theory could mainly connect the MCSP and its use to exploration, seemingly creating an imbalance between exploration and exploitation. Nevertheless, in Axis' case this skewed balance seems to be the right balance at this moment. However, in a future where the setting might look very different, the appropriate balance may shift. Thus, it could be that the MCSP that we have identified in Axis is an appropriate MCSP for a more exploratory phase. Implicit in ambidexterity is the suggestion that the balance between exploration and exploitation means an equal engagement in both over time. However, it seems as though this fails to consider the unique setting in which a company operates and should thus not be an end in itself. This is not saying that the acknowledgement of ambidexterity is wrong, it is merely a reminder of what should not be inaccurate developments of the concept. Ambidexterity, we believe, should be kept as the concept of having two focuses, exploration and exploitation, in order to avoid becoming blind sighted on one. This is regardless of the actual balance being equal or slightly skewed, as the appropriate balance most likely will change over time. Ambidexterity then is the capability of being alert and flexible to changes occurring both within and outside the organization, simultaneously looking ahead and to the past. All in all, this is nothing new, however the concept of ambidexterity brings us closer to how this can be achieved, and in our case, how MCSP can aid in this achievement.

6. Conclusion

In this final chapter we present the findings and conclusions of our study. We also discuss limitations and practical and academic contributions of our study as well as possibilities for future research.

6.1 Conclusion

The purpose of this thesis was to investigate how Axis, a highly successful company within an evolving industry, is using MCSP to foster innovation while simultaneously securing profits today. Thus, the aim has been to investigate how MCSP can be used as a way to achieve ambidexterity by answering the research question:

How does Axis use MCSP to achieve organizational ambidexterity?

We find support for that the MCSP in Axis does indeed facilitate the achievement of ambidexterity in several ways. In Axis' case we have found that planning seems to be the core component of the MCSP facilitating ambidexterity, as it appears to have a balancing effect on exploration and exploitation. This balancing effect, however, would probably not have been achieved without the effects coming from combining planning with the cultural and administrative controls. The cybernetic controls and rewards and compensation seem to have a mere complementary role in the achievement of ambidexterity. Our findings suggest that ambidexterity can be achieved without combining MCS with completely opposing effects on exploration and exploitation in a MCSP as suggested by Gschwantner and Hiebl (2016). Instead, the interactive design of a MCS and the synergies created by the MCSP can lead to individual MCS having a balancing effect, rather than specifically facilitating either exploration or exploitation.

Further, we find that the MCSP is providing necessary conditions for a combined structural and contextual approach to ambidexterity, which is identified in Axis. Also, the internal mode to ambidexterity is complemented by both external modes to ambidexterity (alliance and acquisition) described by Duval (2016). Looking to theory it seems Axis make use of the reinforcing effect possible from combining contextual and structural approaches (Agostini et al., 2016) as well as complementing the internal capabilities with external capabilities by using both intra- and inter organizational modes to ambidexterity. This comprehensive way of approaching ambidexterity has proved effective for Axis and it seems likely that this way of approaching ambidexterity would be preferable for more companies as the resulting abundance of information, ideas and alternatives to act upon provides a solid basis for achieving ambidexterity. However, it is important to take into consideration the setting in which Axis is currently in. Our findings show that although balancing effects are present from the MCSP, there seems to be a slight skew towards fostering exploration. This could be either due to the increased need to promote exploration due to the usual bias towards exploitation (March, 1991; Levinthal & March, 1993 and O'Reilly & Tushman, 2013) or due to the fact that the fast growing and developing market of Network Surveillance Technology requires this slightly skewed balance towards exploration. Thus, it could be that the MCSP that we have identified in Axis is an appropriate MCSP for a more exploratory phase.

To conclude, this study constitutes a step towards understanding the way MCS and MCSP can be used to help achieve ambidexterity. From what we have been able to find, our study is the first empirical case study examining the relation between MCSP and ambidexterity. Thus, our findings provide possibilities for future studies within the research field in order to confirm, modify or oppose our findings supporting the relevance of MCS and MCSP in achieving ambidexterity.

6.2 Limitations

Firstly, it has to be mentioned that this thesis has several limitations concerning the research design and methodology. The limitations of a qualitative method were discussed more in depth in chapter 2.4 and the limitations related to case studies in chapter 2.2. Additionally, shortcomings related to contextual factors are common in case studies. An example is that the culture is very complex, which often every person has different interpretations of. However, we have tried to explain the corporate culture in the way that aligns with all our four interviewees' opinions together with our other used sources of data.

Further, the definitional ambiguity present of used concepts has to be mentioned. The distinction between exploration and exploitation is not always clear either in theory or in practice. Also, the concept of ambidexterity suffers from unclarity of its actual constitution. The unclear definition of ambidexterity as well as of exploration and exploitation can therefore have influenced our study and thereby the results. However, in our thesis we have tried to be specific as to how we define and distinguish between all our concepts used. For example, as is seen in the figure of Axis innovation timeline (Appendix 3) the distinction for exploration has been set to when a new product-group is launched. This distinction has been done as it is in line with how Axis looks at its innovations. A "real" innovation for Axis is when they do a technological advancement, often in the form of a totally new product-group. Also, we have chosen to focus on innovations in order to define ambidexterity. These distinctions of course influence our conclusions drawn. For example, even if innovation has been shown to be closely related to ambidexterity, it comes with the risk of giving a partial picture of the achievement of ambidexterity.

Finally, the scope of this study can also be seen as a limiting factor, since due to the given timeframe we were not able to conduct a more thorough investigation of Axis's MCSP and observe the innovation processes in the projects. Although we felt that we got the information needed, it can be seen as a limitation that we only had four interviews. It would have been preferable to also interview the employees we only were in touch with through email, however due to the company's limited resources of time we were grateful for their responses by email. As the different departments at Axis are working with innovations in different ways, it would have been desirable to conduct interviews with representatives from all departments in order to validate our findings further. Although, direct observations of the corporate culture were made informally from our visits at the office, it would have been beneficial to also collect data about the activities in Axis through direct observations in a formal way. This could have been done by participating in the project teams' meetings, listen to the discussions around the roadmap and budget as well as observing the engineers daily work.

6.3 Contributions

This study contributes to the research field of MCSP, innovation and ambidexterity in several ways. Firstly, this study has contributed by offering the first empirical case study identified that aims to investigate the MCSP in relation to ambidexterity. By taking in several different relevant theoretical concepts and linking them both to each other and to the empirical material from our case company this study has contributed by providing a comprehensive picture of how a successful innovative company is managing to balance exploration and exploitation, namely being ambidextrous, and the possible influence of their MCSP on this ability. As many technological innovative companies, due to the technological advancements worldwide, currently are growing out of its customs for an entrepreneurial company, we believe that our findings can work as a guidance of how it is possible to work in order to be able to achieve organizational ambidexterity.

Further, the study has contributed by endorsing the theories constituting our theoretical foundation. Firstly, the findings support the proposition by Malmi and Brown (2008) that MCSP is a useful theoretical concept in identifying and evaluating the different MCS present in an organization by directing attention to the interrelatedness and synergies between these MCS. Also, the proposed usefulness of MCSP in achieving ambidexterity by Gschwantner and Hiebl (2016) is supported, however, further suggesting that ambidexterity can also be achieved without combining MCS with completely opposing effects on exploration and exploitation. Instead, the synergies created by the MCSP can lead to individual MCS having a balancing effect, rather than specifically facilitating either exploration or exploitation. Third, our findings have strengthened the statement by Davila (2005) that MCS can be used in order to foster innovation. Finally, the combined structural and contextual approach to ambidexterity discussed by Agostini et al. (2016) has been observed, additionally indicating a complementarity between the different modes to ambidexterity described by Duval (2016).

Although the empirical evidence is too limited in order to generalize our findings, the empirical findings from this study still contribute to broaden the understanding of how the MCSP can be used in order to achieve organizational ambidexterity. This is especially true considering the limited understanding on the subject at present as well as the currently scant empirical support for proposed relations between MCSP and ambidexterity. In addition, we hope that this thesis can contribute to shed light on the, for us, interesting research area of ambidexterity, innovation and MCSP, and more importantly, the linkages between them.

Apart from academic contributions the findings in this study are also of practical interest. As ambidexterity has been shown to be a central component of long-term company success (March, 1991; Raisch & Birkinshaw, 2008; O'Reilly & Tushman, 2013; Ogrean, 2016; Woods, 2016) the aim to develop an ambidextrous ability should be of significant interest to practitioners. This study proposes that the way the MCSP is designed and used can foster the achievement of ambidexterity. Thus, managers can influence the development of an ambidextrous ability and this thesis provides guidance on what can be essential characteristics of such a MCSP. Also, even if the detailed understanding of the relationship

between MCSP and ambidexterity is far from developed, the mere attention towards ambidexterity as a concept is something that should be emphasised. The capability of being alert and flexible to changes occurring both within and outside the organization, simultaneously looking ahead and to the past is nothing new. However the concept of ambidexterity brings us closer to how this can be achieved.

6.4 Suggestions for further research

We believe that ambidexterity related to management control, in general, is an area of great interest for future research. In a world with a rapid changing environment, new technologies and short product-lifecycles, companies are forced to be in the forefront when it comes to innovation while at the same time managing to make profit today in order to survive on the market. As innovative companies are becoming more and more common, there is a need for further research on the relation between ambidexterity, innovation and management control. Firstly, it would be interesting to see several studies of different innovative industries in order to see if these studies will strengthen the connections we have seen in our study. It would also be interesting to see if contextual factors, such as country, have an impact on the findings.

Second, it could be that the wide approach to achieving ambidexterity identified in Axis, combining all modes (Duval, 2016) and a combined approach (Agostini et al., 2016) to ambidexterity, is a preferred strategy. This is something that could be investigated further, performing a more quantitative type of study. Also, acknowledging and studying the role of projects in structural ambidexterity further would be interesting as projects allows for effective innovation with less resources as well as providing a interactive control context.

Further, as discussed in the limitations of this study, the limited scope and timeframe has necessitated several delimitations. For example, our focus on innovation can, even if it is closely related to ambidexterity, give a partial picture of the achievement of ambidexterity. Logically, more parts of the organization are central in creating a successful business. For example, the distribution network in Axis in terms of reaching the market is somewhat outside our focus, however, seemingly relevant for success, since even if an organization can be ambidextrous in every other respect, they will not survive if not being able to successfully sell their products or services. This problem has to do with the concept of ambidexterity suffering from unclarity of its actual constitution. Thus, the researchers in this field must also progress on the agreement of clear definitions and distinctions of ambidexterity in order to facilitate focused future research.

Finally, further research is needed about the interrelationships and linkages between the different controls in the MCSP. This is needed in order to be able to investigate how the controls work together and if they support each other in a positive or negative way. By conducting a study like this, the aim is to find out what combinations of MCS are appropriate for achieving ambidexterity.

References

Agostini, L., Nosella, A. & Filippini, R. (2016). Towards an Integrated View of the Ambidextrous Organization: A Second-Order Factor Model. Creativity and Innovation Management, vol. 25, no. 1, pp.129-141.

Auh, S. & Menguc, B. (2005). Balancing exploration and exploitation: The moderating role of competitive intensity. Journal of Business Research, 58(12), 1652-1661.

Axis Communications. (2017a). Annual Report - 2016.

Axis Communications. (2017b). About Axis, History. Retrieved from: https://www.axis.com/se/sv/about-axis/history [2017-04-06].

Axis Communications. (2017c). 30 years of milestones. Retrieved from: https://www.axis.com/files/sales/axis_milestones_30years_1401_lo.pdf [2017-04-06].

Axis Communications. (2017d). About Axis, Core Values. Retrieved from: https://www.axis.com/se/sv/about-axis/sustainability/social-responsibility/core-values [2017-05-09].

Axis Experience Centre. (2017). Lund. Visited 2017-04-25 and 2017-04-28.

Bedford, D. (2015). Management control systems across different modes of innovation: Implications for firm performance. Management Accounting Research, 28, 12-30.

Bedford, D., Malmi, T. & Sandelin, M. (2016). Management control effectiveness and strategy: An empirical analysis of packages and systems. Accounting, Organizations and Society 51, pp. 12-28.

Birkinshaw, J. & Gupta, K. (2013). Clarifying the distinctive contribution of ambidexterity to the field of organization studies. The Academy of Management Perspectives; 27 (4): 287-298.

Björklund, M. & Paulsson, U. (2003). Seminarieboken: att skriva, presentera och opponera. Studentlitteratur AB.

Bonner, S. & Sprinkle, G. (2002). The effects of monetary incentives on effort and task performance: theories, evidence, and a framework for research. Accounting Organizations and Society 27 (4/5), 303–345.

Bryman, A. & Bell, E. (2011). Business research methods. 3rd edition Oxford : Oxford University Press.

Bryman, A. & Bell, E. (2015). Business research methods. 4th edition Oxford : Oxford University Press.

Bunce, P., Fraser, R. & Woodcock, L. (1995). Advanced budgeting: a journey to advanced management systems. Management Accounting Research 6 (3), 253–265.

Burns, T. & Stalker, G. (1961). The management of innovation. London: Tavistock.

Chebbi, H., Yahiaoui, D., Vrontis, D. & Thrassou, A. (2015). Building Multiunit Ambidextrous Organizations - A Transformative Framework. Human Resource Management, vol. 54. pp.155-177.

Chenhall, R. & Moers, F. (2015). The role of innovation in the evolution of management accounting and its integration into management control. Accounting, Organizations and Society, vol.47, pp.1-13.

Damanpour, F. & Gopalakrishnan, S. (2001). The dynamics of the adoption of product and process innovations in organizations. Journal of Management studies, vol. no. 38, pp.45-65.

Davila, A. (2005). The promise of management control systems for innovation and strategic change. In C. S. Chapman (Ed.), Controlling Strategy: Management, accounting and performance measurement. Oxford, UK: Oxford University Press, pp. 37- 61.

Duncan, R. (1976). The ambidextrous organisation: Designing dual structures for innovation. North Holland, New York, USA.

Duval, L. (2016). Organizational Ambidexterity and the Management Accountant: A Review. Journal of Applied Management Accounting Research, Vol. 14, No. 2, pp. 9-28.

Fisher, J. (1995). Contingency-based research on management control systems: categorization by level of complexity. J. Account. Lit. 14, p. 24–53.

Flamholtz, E., Das, T. & Tsui, A. (1985). Toward an integrative framework of organizational control. Accounting Organizations and Society 10 (1), p. 35–50.

Freedonia. (2015). Private Security Services, Industry Study 3268, Abstract only. Retrieved from: http://www.freedoniagroup.com/industry-study/private-security-services-3268.htm. [2017-04-10].

Grabner, I. & Moers, F. (2013). Management control as a system or a package? Conceptual and empirical issues. Accounting, Organizations and Society 38, pp. 407-419.

Green, S. & Welsh, M. (1988). Cybernetics and dependence: reframing the control concept. Academy of Management Review 13 (2), 287–301.

Gschwantner, S. & Hiebl, M. (2016). Management control systems and organizational ambidexterity. Journal of Management Control, 27(4), 371.

Gsmarena. (2015). The rise, dominance and epic fall – a brief look at Nokia's history. Retrieved from:
http://www.gsmarena.com/the_rise_dominance_and_epic_fall__a_brief_look_at_nokias_history-blog-13460.php. [2017-03-27].

Handelskammaren. (2013). Vilda ideer blir innovationer. Retrieved from:
http://www.handelskammaren.com/press/sydsvenskt-naeringsliv/axis-vilda-ideer-blir-innovationer/ [2017-05-11].

Hill, S. & Birkinshaw, J. (2014). Ambidexterity and survival in corporate venture units. Journal of Management, 40 (7), 1899–1931.

Junni, P., Sarala, S., Taras, V. & Tarba, S. (2013). Organizational Ambidexterity and Performance: A Meta-Analysis. The academy of management perspectives; 27 (4): 299-312.

Kennedy, F. & Widener, S. (2008). A control framework: Insights from evidence on lean accounting. Management Accounting Research, 19(4), 301-323.

Levinthal, D. & March, J. (1993). The myopia of learning. Strategic Management Journal, 14: 95-112.

LinkedIn. (n.d.). Rickard Dahlroth. Retrieved from: https://se.linkedin.com/in/rickard-dahlroth-402bb271 [2017-04-10].

Malmi, T. & Brown, D. (2008). Management Control Systems as a Package— Opportunities, Challenges and Research Directions. Management Accounting Research, vol. 19, pp. 287-300.

March, J. (1991). Exploration and exploitation in organizational learning. Organization science; 2 (1): 71-86.

Markets and Markets. (2017). Press release: Video Surveillance Market worth 75.64 Billion USD by 2022. Retrieved from: http://www.marketsandmarkets.com/PressReleases/global-video-surveillance-market.asp [2017-04-05].

Moran, M. (2015). Security Market Growth Continues, Security Management, 15 May. Retrieved from: https://sm.asisonline.org/Pages/Security-Market-Growth-Continues.aspx. [2017-04-10].

O'Grady, W., Morlidge, S. & Rouse, P. (2016). Evaluating the completeness and effectiveness of management control systems with cybernetic tools. Management Accounting Research, 33, pp.1-15.

Ogrean, C. (2016). Solving Strategic Paradoxes Through Organizational Ambidexterity – A Foray Into the Literature. Studies in Business Economics, No. 11 (2), pp. 97-103.

O'Reilly, C. & Tushman, M. (2013). Organizational ambidexterity: past, present, and future. The academy of management perspectives; 27 (4): 324-338.

Otley, D. (1999). Performance Management: a Framework for Management Control Systems Research. Management Accounting Research vol. 10, pp. 363–382.

Otley, D. (2016). The contingency theory of management accounting and control: 1980-2014. Management Accounting Research, 31, pp.41-62.

Ouchi, W. (1979). A Conceptual Framework for the Design of Organizational Control Mechanisms. Management Science vol. 25, no. 9, pp. 833-848.

Raisch, S. & Birkinshaw, J. (2008). Organizational ambidexterity. Antecedents, outcomes, and moderators. Organization Science, 34 (3), 375–409.

Ryan, B., Scapens, R. & Theobald, M. (2002). Research method and methodology in finance and accounting. 2nd edition London: Thomson

Sandelin, M. (2008). Operation of management control practices as a package—A case study on control system variety in a growth firm context. Management Accounting Research, 19(4), 324-343.

Scapens, R. (1990). Researching management accounting practice: the role of case study methods. The British Accounting Review, 22(3), 259-281.

Schein, E. (1997). Organizational Culture and Leadership. Jossey-Bass, San Francisco.

Simons, R. (1994). Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal. Harvard Business School Press, Boston, MA.

Smith, D. (2015). Exploring Innovation. 3rd edition. McGraw-Hill Higher Education, Maidenhead.

Svahn, K. (2012). Kodak nära konkurs. Dagens Nyheter, 7 January. Retrieved from: http://www.dn.se/ekonomi/kodak-nara-konkurs/. [2017-03-29].

Toor, A. (2016). New database aims to track the global surveillance industry, The Verge, 1 August. Retrieved from: http://www.theverge.com/2016/8/1/12340348/surveillance-industry-index-database-privacy-international. [2017-04-07].

Tushman, M. & O'Reilly, C. (1996). The ambidextrous organization: managing evolutionary and revolutionary change. California Management Review, 38: 1-23.

Tushman, M. & O'Reilly, C. (1997). Winning through innovation: A practical guide to leading organizational change and renewal. Boston, MA: Harvard Business School Press.

Tushman, M., Smith, W., Wood, R., Westerman, G. & O'Reilly, C. (2010). Organizational designs and innovation streams. Industrial and Corporate Change, 19(5), 1331-1366.

Woods, K. (2016). Organizational ambidexterity and the multi-general workforce. Journal of Organizational Culture, Communications and Conflict. 20 (1), 95-111.

Yin, R. (2009). Case study research - design and methods. SAGE Publications, 4th edition, Los Angeles.

Appendix

Appendix 1 - Interview Guide

In line with the purpose of this thesis, questions such as "What are you doing?", "How are you doing it?", and "Why are you doing it?" have been asked to the interviewees at Axis Communications.

General questions
1. Tell us about yourself and your experience at Axis?
Administrative control
2. How does the organizational structure at Axis look like?
3. Where is the division between New Business, R&D and Technology? Why this division?
4. How does the management respective the board look like? Do you have some other general responsibility groups within the company?
5. Does Axis have some policies in place that everyone in the organization has to follow?
Cultural control
6. How would you describe the corporate culture?
7. Are there any social norms within Axis? And which are they?
Cybernetic control
8. How does the management control of your department look like? Is there any difference from other departments in some way?
9. What do you consider as the most important MCS for the company as a whole? Why do you consider this as the most important?
10. How strict is the budget? Do you follow up the budget carefully?
11. How strict are the different project budgets? Do they differ between different types of projects? If yes, how does it differ?
Planning control
12. How does the planning look like for your department (short/long-term, detailed/overall, etc.)? Why does it look like this?
13. Who does the planning?
14. How is the planning used?
Rewards and compensation control
15. Is Axis using any rewards (formal/informal)? If yes, which?
16. Does these differ between the different departments within the company?
Innovation
17. How should you describe the work with innovation within your department? Does this differ from other departments in the organization? If yes, in what way and why?
18. How do you consider that the MCS affects the company's work with innovation? (Limit/Foster)
19. How much focus is spent on totally new products/innovations and already existing products respectively?

20. Is it something you would like to add on to the work within your department or the work with innovation in the company as a whole?

Innovation and MCS (related to Davila)

21. How does innovations mainly occur at Axis?
22. How do you classify the innovation process within New Business/R&D/Technology?
23. Is it from separate departments/individuals/groups/management that internal innovations come from? If from many directions – is it some difference of how radical these innovations are?
24. Are innovations created within clearly stated limits or with more free hands?
25. Do you have experience from that changes in the MCS has been done at Axis with the purpose to foster innovation?
26. Are the different types of innovation (radical/incremental) something you at Axis have in mind when designing the MCS?

Appendix 2 - Case study protocol

1. Introduction to the case study and the role of the protocol
1.1 The case study's research question and hypothesis

Research question

How does Axis use MCSP to achieve organizational ambidexterity?

Hypothesis

We believe that Axis is using a combination of structural and contextual ambidexterity, mainly internally but also complemented with alliance and acquisition. Contextual ambidexterity is mainly achieved by a strong corporate culture that support innovation and an open governance structure that creates better internal communication. Additionally, we believe that Axis is using structural ambidexterity as it is having distinct departments with different specified tasks and goals which in turn lead to that different levels of focus on exploration and exploitation is present at the departments.

Cybernetic, planning, as well as reward and compensation controls is something that we believe is used in Axis, but that it is used in different ways between departments. As an example, we expect that it is easier to get additional resources in the departments that are focusing on exploration. When it comes to reward and compensation, we believe that it is related to what focus that is most important for the department, such as sales targets for Sales and number of new products and patent for New Business and R&D. Additionally we believe that innovative contexts, which the employees at Axis is operating in, is closely related to intrinsic motivation and therefore we do not expect to find an extensive reward system at Axis. Finally, we believe that the corporate culture within Axis is strong and that some of a clan control is present.

1.2 The case study's theoretical framework

The case study is built on theory about innovation, ambidexterity, MCS and MCSP. The theory Management Control Systems as a Package (MCSP) has been used to relate the identified activities within the company to the different controls, to provide the reader with a better overview and facilitate the understanding.

1.3 The role of the protocol as a helping tool for the case study

The role of the protocol is to provide help and support for being able to execute a case study in both a scientific and efficient way as possible. By documenting the process of the study already from the beginning, the protocol function as a support of how the study can be execute in the best possible way. In addition, the case study protocol provides the reader with an understanding of the planning and execution of the study, which leads to that both the transparency and reliability of the case study increases. Finally, by documenting, in the protocol, how the study has been done, the replicability of the case study increases.

2. Approach for data collection
2.1 The persons to be visited or emailed

Interviews

Interview date	Name	Title/Position	Duration	Recorded
19th April 2017	Rickard Dahlroth	Director and Head of Business Control, Controller of New Business	1h 50 minutes	Yes
25th April 2017	Martin Rasmusson	Business Controller for Products & CTO and HR	55 minutes	Yes
28th April 2017	Ylva Bexelius	Project Manager for New Video Products	1h 35 minutes	Yes
8th May 2017	Kent Fransson	Global Product Manager for PTZ Cameras	55 minutes	Yes

Email correspondence

Email date	Name	Title/Position	Topic
3rd May 2017	Ylva Bexelius	Project Manager for New Video Products	Classification of innovation projects
3rd May 2017	Nicklas Olofsson	R&D Director for Fixed Cameras	Rewards related to innovation and patents
3rd May 2017	Nils Olsson	Director of Intellectual Property Rights	Rewards related to innovation and patents
12th May 2017	Anna Jeppsson	R&D Director for PTZ Cameras	Roadmap, budget and project budgets

2.2 Plan for data collection

The interviews should be performed during week 16, 17 and 19 at the interviewees' workplace. Four employees at Axis will be interviewed; two Business Controllers, one Project Manager, and one Global Product Manager. The interview with the Director and Head of Business Control/Controller for New Business is planned to take around two hours, while the other interviews will be limited to around one or one and a half hour.

2.3 Preparations before the visits

Before the first visit at the company we will read in more detail about the company, to have as a good overview as possible over how the company is operating, so that the focus can be placed on the right and most interesting things. Despite that the interviews is planned to be semi-structured will questions be prepared, whereof a selection will be sent to the interviewees to give them a possibility to prepare.

3. Case study questions
3.1 Key questions

- How does the innovation process look like?

- How does the organization and corporate culture look like?

- Do you think that the MCS at Axis affects the work with innovation? Why, and in what way?

- Have you experienced that changes have been made in the MCS with the aim to foster innovations?

Above, some of the key questions for the interviews are presented. See the Interview Guide in Appendix 1 for a more detailed presentation of the interview questions.

3.2 Evaluation

After the interviews have been carried out will the theories of MCSP, innovation and ambidexterity be applied to the empirical information retrieved from the interviews. Thereafter will we analyse the case company in order to be able to answer to the research question for this thesis.

Appendix 3 – Axis innovation timeline

Products (1984–2017)

Product	Entries (year)
Protocol converter	AX-7P (1985); AX-7 and AX-3 cobra; AXIS AX-5
Network TCP/IP print server	AXIS NPS 550
Network optical storage	AXIS 850/950
Network cameras	AXIS 200; AXIS 240; AXIS 2400; 2100; 2130 PTZ; 205; 211; 225FD; 212 PTZ; 209FD-R; Q1755; P33; Q1910; Q1602; M3007-PV; P1428-E
Video encoders	
Physical access controls	A1001
IP Audio products	C3003-E
Out-of-the-box solutions	Companion Line

Technology (Microchips)

Technology	Entries
IBM mainframe connectivity	CGA
Multi Protocol Printer Connectivity	ETRAX
Network Video Chips	ARTPEC-1; ARTPEC2 & ARTPEC-A; ARTPEC-4; ARTPEC-5
Lightfinder	
Zipstream	

Complementary information

Milestone
AXIS is founded
World's first network camera
MPEG-4
POE
Fixed Dome
Commuting Cameras
HDTV
Thermal network cameras
360 Panoramic view
4K Ultra HD

Extracts from Axis innovation timeline. Based on Axis Experience Centre, 2017; Axis Communications, 2017b and Axis Communications, 2017c.