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Making the shift

A case study of adapting explorative innovation to encounter uncertain change

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Abstract:

In this study we explore how a company meets the challenge of changing their balance from incremental to more radical innovation. When faced with the challenge of new technology, climate change, and digitalization, several industries need to change their core business in order to stay relevant. Through an in-depth single case study of an automotive manufacturer we study what challenges a company experience in the transition from exploitative to explorative innovation in order to reach organizational ambidexterity, as well as what changes a company can implement to overcome these challenges. To study these issues we use an extended version of Bower's (1970) resource allocation framework. For a long time it has been known that the capital budgeting methods recommended by theory have a negative impact on explorative innovation. However, we discover multiple non-financial aspects that influence the investment process. A risk-averse culture and long lead times both have a negative impact on explorative innovation. Another crucial aspect is the selling of capital investments where decisions are often made in informal environments rather than in formal decision-making forums.

Keywords: Organizational ambidexterity, Investment process, Capital budgeting

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1. Introduction

“How a company reacts to technological change is a good indicator of its inner drive for greatness versus mediocrity. Great companies respond with thoughtfulness and creativity, driven by a compulsion to turn unrealized potential into results; mediocre companies react and lurch about, motivated by fear of being left behind”

- **Jim Collins from “Good to Great”**

Investment decisions are central to the success of any company since they determine which projects are accepted or rejected which ultimately decides the value of the company (Daunfeldt & Hartwig 2014). For a long time, traditional markets have been characterized by investing incrementally, thereby slowly improving and adapting the organization to external conditions. However, to have processes only fit current and historical market conditions may prove dangerous as traditional markets may change rapidly. To cope with both incremental and radical market change, creating processes that stimulate both *exploitation* of current assets and *exploration* of new business areas may prove vital for long-term survival and competitive advantage (March 1991, Andriopoulos & Lewis 2009). The term for balancing innovation by investing in both short-term exploitation and long-term exploration is often referred to as ‘organizational ambidexterity’ (Duncan 1974). In stable markets not characterized by radical change the exploitation of current assets may be a successful strategy. However, in markets that may be affected by radical environmental transformations such as technological advancements, exploration might prove essential in order to not fall behind. The hardships of balancing both exploration and exploitation are known in the accounting literature as research has shown a general bias toward exploitation (Kaplan 1986, Christensen et al. 2010). However, even though the issue is known, a gap exists in the literature on *how* companies may create organizational ambidexterity (Raisch et al. 2009). Research needs to study, for example, factors influencing the performability of ambidexterity rendering it more or less successful; and examine contextual initiatives that move an organization toward ambidexterity (Raisch et al. 2009). In addition to this theoretical gap, most attempts to study organizational ambidexterity in relation to accounting have built upon quantitative methodology, thereby omitting important contextual factors impacting organizational ambidexterity (Carlheim-Gyllenskiöld & Johansson 2019). Against this backdrop we set out in this paper to provide insights into (1) organizational initiatives when trying to become more explorative after long exploitative success and (2) the challenges an organization encounter during this kind of transition. We

achieve to contextualize this by studying AlphaCo (a pseudonym), a market leader in the automotive industry.

70 years ago, AlphaCo were the disruptive force launching a radically new technological innovation which shaped the whole automotive industry. However, AlphaCo are today affected by a new wave of radical technological innovation which they have never experienced before. In the same way AlphaCo changed the industry 70 years ago, they are today challenged by new actors creating radical technological change. The automotive market provides a fruitful empirical context for studying the complexities inherent in moving towards organizational ambidexterity. For a long time, the automotive industry has been a relatively stable environment and companies have historically invested considerable resources in streamlining their processes to quickly be able to respond to minor market changes. This type of specialization however leads to a built-in inertia, making companies less flexible when competition for an entire market change (Benner & Tushman 2003). As a result of climate changes, industries are seen to reduce their emissions in order to achieve the fossil free society many governments are aiming for. Traditional companies that rely on fossil fuels therefore have to explore new innovative solutions in order to counterbalance increasing tensions between internal operations and external conditions. In our special case the market change stems from multiple disruptive forces such as regulators, societal environmental concerns, and new market entrants all pushing change upon AlphaCo. The challenge for AlphaCo will be how to approach this transition caused by a new generation of explorative innovation and how to invest in new competences and structures in order to not lose their position as a market leader. However, even if investment proposals and ideas are generated, will traditional ways of investment decision-making hinder attempts at repositioning the company toward the future? Are any structural and cultural changes necessary to survive? In this empirical context we set out to research:

“What challenges do companies encounter with respect to investment processes when confronting pressures to become more radically innovative? How can companies address such challenges?”

For the purpose of this study, we define the investment process as the process of creating new investment ideas up until a final investment decision is made. A part of the investment process is project evaluation where investment theory has pushed discounted cash flow (DCF) methods

to best appreciate project value (Daunfeldt & Hartwig 2014, Szucsne Markovics 2016). For a long time, the capital budgeting aspect of the investment process has been the focus of research and it is known that the DCF methods used in practice have a negative impact on explorative innovation (Kaplan 1986, Arwidi & Yard 1985, Christensen et al. 2010). There are however multiple other aspects of the investment process that impact explorative innovation. Capital budgeting does not take into consideration which ideas and projects that are accepted or rejected in the initial screening process. Ideas might be rejected before even reaching the capital budgeting stage of the investment process (King 1975). It has also been found that strategic arguments often are more important than financial justification (Ackerman 1970, Lumijärvi 1991, Tholin 2003). Investments in new markets or products outside the core business could therefore be rejected on strategic grounds even if they were financially justifiable. Another important aspect of the investment process is the selling of investments. In order for an investment to be accepted it is crucial to convince managers and executives that the investment is necessary (Lumijärvi 1991, Tholin 2003). It is therefore clear that there are multiple aspects to consider when constructing an ambidextrous investment process, not only capital budgeting. There should therefore be no doubt about the importance of qualitative research into the investment process in order to understand the many complexities market turbulence brings in relation to established exploitative processes, and what initiatives market actors do to adapt to the change. Our method theory, which is based on Bower's (1970) resource allocation framework allows us to analyze how market turbulence influence AlphaCo's strategy and investment process which in turn influence the balance between exploitation and exploration. It also allows us to pinpoint stages influencing the degree of exploration and later analyze how initiatives taken may foster greater exploration. This would give a general understanding of which factors are important to consider when companies try to become more ambidextrous.

Our study primarily contributes to the accounting and innovation literature on innovation ambidexterity as it still is an area in need of further studies (Raisch & Birkinshaw et al. 2009, Gschwantner & Hiebl 2016, Bedford et al. 2019). Firstly, by studying the investment process in practice we are able to discover individual factors influencing the performability of ambidexterity rendering it more or less successful. Secondly, we contribute to the domain by highlighting and discussing attempts to alter the balance from incremental, exploitative innovation to more radical, explorative innovation. By addressing in a case study how intangible aspects such as selling of capital investments, financials, culture, and strategy, together affect the way capital investments are made and prioritized, we expand the domain of

accounting and organizational ambidexterity by studying these contextual factors (Raisch et al. 2009). As we reveal what challenges traditional structures pose to an organization in this type of transition and what efforts are made, companies can draw inspiration. This is valuable for any company experiencing pressures to become more explorative after a period of market stability, or for companies seeking to achieve competitive advantages by becoming a disruptive force through radical innovation.

This thesis will in section two cover the theoretical background, including a review on (1) the literature of factors influencing investment decisions, (2) organizational ambidexterity in general, and (3) the challenges of achieving organizational ambidexterity. This is followed by a presentation of the method theory and our theoretical framework. In section three we go through the research methodology and describe the research design. In section four we begin by writing about our empirical findings that is divided into five categories: 1. Background 2. The traditional investment process 3. Changes in market conditions 4. Initiatives toward innovation 5. Issues in the transformation. Later in section five we discuss our findings before we ultimately present our conclusions in section six.

2. Theoretical Development

In this section we outline the theoretical background of our study. Section 2.1 covers a review of the research on investment decision-making, organizational ambidexterity and the challenges of achieving ambidexterity. Section 2.2 outlines our theoretical framework which is based on the investment decision-making literature and will act as the structure for the discussion.

2.1 Previous Research

2.1.1 Aspects influencing investment decisions

Since the investment process is central for the success and longevity of an organization, there has been great interest in understanding its underlying mechanisms. Because of scarce resources, many times companies must prioritize investments which is often done through the application of various capital budgeting methods. According to theorists DCF methods are the best capital budgeting methods for investment decision-making (Daunfeldt & Hartwig 2014, Szucsne Markovics 2016). By taking into consideration when money is earned as well as the risk of the investment it is possible appraise its value in today's monetary value. The most common methods used are; Net Present Value (NPV), Internal Rate of Return (IRR), and Accounting Rate of Return (ARR) (Szucsne Markovics 2016). Another frequently used method is the payback method where one considers the time it will take for a project to be fully paid by its own generated cash-flows. This method has however been criticized by academia since it does not account for the time value of money or cash-flows beyond the payback period. Even though the method is criticized it is still widely used in practice because of its simplicity (Daunfeldt & Hartwig 2014).

Another great force influencing investment decisions is the composition of the organization. Brunzell et al. (2013) find in their research that the size and age of the organization together with the educational level and age of its executives greatly affect which capital budgeting methods are used, in turn deciding what investment decisions are made. Smaller firms and firms with older or less educated executives tend to apply less sophisticated capital budgeting methods such as payback rather than more sophisticated methods such as NPV or IRR. The capital structure of the company also greatly affects which capital budgeting methods are used

(Szucsne Markovics 2016, Brunzell et al. 2013). Companies with a higher debt leverage use the payback method to a greater extent than other companies due to the short-term pressure to repay their debts (Daunfeldt & Hartwig 2014).

However, several case studies have shown that capital budgeting and capital structure might not be as important in practice as they are in theory (Ackerman 1970, Lumijärvi 1991, Tholin 2003). In practice there are multiple other non-financial aspects to consider regarding investment decisions. For example, in the initial screening process, strategic arguments have been found to be more important than financial arguments. This implies that an investment may be accepted or rejected on strategic grounds before any financial aspects of the investment have been considered (King 1975, Lumijärvi 1991). According to Lumijärvi (1991), strategic arguments are also more effective than financial arguments when gathering support for a new investment. This is because it is more difficult for decision makers to confirm the numbers that are used in the capital budgeting calculations than it is for them to follow logical strategic reasoning. It has also been found that strict financial targets foster manipulated calculations which also further limit the usefulness of financial arguments (Tholin 2003).

Another crucial non-financial aspect influencing the investment process is the selling of investments (Bower 1970, Lumijärvi 1991, Tholin 2003). By selling investments to managers and executives within the organization the investment gets support from key decision makers. If a lot of time is spent on discussing an investment it is also more likely that it will be accepted as the investment proposal becomes anchored within the organization. The selling of investments occurs both through formal settings such as presentations and meetings but also through informal means such as telephone calls and visits to the manager's office (Lumijärvi 1991).

When selling capital investments, it is especially important to sell investments to low- and middle management. If an investment is supported from lower levels of an organization, it is likely to be supported at higher levels as well. If executives were to reject investments with a lot of support, they would question the judgement of low-level managers and their ability to do their job which could lead to undesired conflicts within the company (Lumijärvi 1991). Furthermore, the concept of selling investments creates some difficulties. By supporting an investment, middle managers risk their reputation. This implies that middle managers only support projects that are beneficial to themselves, typically short-term projects with quick returns (King 1974, Lumijärvi 1991, Tholin 2003). This might create an imbalance between

investing in long-term strategic projects (exploration) and short-term projects (exploitation) where exploitation is prioritized. Investing in both to create balance and dynamic capabilities is connected to the notion of Organizational Ambidexterity (Duncan 1974, March 1991, Benner & Tushman 2003).

2.1.2 Organizational Ambidexterity and technological change

An organization's dynamic capabilities depend on its ability to simultaneously exploit current technologies and resources to become more efficient, while also exploring new markets and business areas to create future cash-flows (Benner & Tushman 2003). The concept of organizational ambidexterity was created when observing exploitative organizations failing to change together with the market. Many organizations such as Kodak and Blockbuster were outperformed as new technology changed the terms on which competition was based on. Both organizations failed to integrate new technologies in their exploitative operations which later made them go out of business. In times of change and uncertainty, companies will have a higher chance of survival if they invest both in exploitation and exploration (Benner & Tushman 2003). Tushman and O'Reilly (1996) described the concept of organizational ambidexterity as the ability to simultaneously pursue incremental exploitative innovation and discontinuous explorative innovation by having multiple contradictory structures within the same firm which enable variation. One of the greatest reasons to why companies survive long-term is that they have inherent capabilities to adapt and vary *together* with the market (Raisch et al. 2009). A great example of being able to adapt is ABB who transformed themselves from a slow heavy-engineering company mainly based in Sweden and Switzerland to an aggressive global competitor with investments in Eastern Europe and Asia (Tushman & O'Reilly 1996). ABB found a way to remain flexible and agile by employing autonomous groups. ABB relied on 5,000 profit centers, with an average of 50 people in each that would operate like small businesses. The logic was to keep units small so that employees could take ownership and responsibility for their results. This would encourage a culture of variation and autonomy that otherwise could not exist in a large, centralized organization. The company's size and past success was not an obstacle, but a resource as they could draw benefits from economies of scale both in marketing and manufacturing. Another similar way of maintaining flexibility and capabilities to adapt together with the market is having one part of the organization working with current operations and one part working with new innovative initiatives (Tushman & O'Reilly 1996). As a consequence of this strategy, tensions in the organization may arise as

contradicting goals and structures exist within the same firm. However, these tensions may be negated by creating a culture which relies on a strong, widely shared corporate value system promoting sharing of information and resources. In the same way as the culture can create obstacles for innovation and change, it can also remove obstacles and foster change. Tushman and O'Reilly (1996) argue that ambidextrous organizations learn from the same things that sometimes kill successful firms: variation, selection and retention. Ambidextrous organizations create variation in products and technologies by decentralizing and encouraging individual autonomy. They select investments to pursue by staying close to their customers, quickly responding to market signals and having clear structures in place that know when to kill products and projects. The organizational structure and product mix in ambidextrous firms are decided by the market and its customers, not by the corporate hierarchy.

During times of market change characterized by high technological development, established actors may need to adopt completely new technologies and can do so by working ambidextrously (Taylor & Helfat 2009). Besides managing opposing processes organizations also encounter the ambivalent challenge of exploiting existing assets to support the development of new exploratory technology. Taylor and Helfat (2009) argue that established actors who are about to make a transition need links between the organizational units responsible for developing the new technology and the organizational units responsible for the resources needed to commercialize the innovation. The connections between the units consist of economic, structural, social and cognitive connections that enable the use of existing resources and skills for the transition to new technologies. In order to create and maintain these connections to achieve dynamic competence in technological transitions the organization must involve middle managers. Tushman and O'Reilly (2004) also propose in their research that ambidextrous organizations need ambidextrous senior teams and top management who have the ability to understand the varying needs of very different kinds of businesses. A clear and compelling vision relentlessly communicated by managers is crucial in building ambidextrous designs. The level of success depends on the degree corporate management involve themselves into building and supporting the complex internal corporate structure needed to manage the duality (Dekker et al. 2013). Communication together with building a coherent culture permits exploitation and exploration to coexist (Tushman & O'Reilly 2004). The forces of inertia in established companies are strong, which makes it necessary for management to engage themselves in this transition to be able to create new innovations, without disturbing the traditional business (Tushman & O'Reilly 2004).

2.1.3 Forces that diminish Organizational Ambidexterity

Much of the literature on organizational ambidexterity includes studies on how accounting and innovation affect each other, where a main point is that control systems have great influence (Bedford 2015). Accepted knowledge is that the investment process can have a positive or negative effect on the degree of innovation. It is therefore crucial to build a well-functioning process that can create the balance organizational ambidexterity dictates (Davila 2000, Jorgensen & Messner 2009).

Many organizations find it difficult to manage the duality organizational ambidexterity demands because their fixed investment processes prioritize short-term profitability over long-term profitability (Hannan & Freeman 1984). Building more complex structures can intuitively be a major obstacle for many companies as they are busy with maintaining daily operations. If operations function well and generate positive cash-flows, they feel unmotivated to change their operations even though it might improve the future of the organization (Bower & Gilbert 2005). Risks of changing current operations are often considered, however what is usually not considered is the risk of falling behind and being ousted (Christensen et al. 2010)

The negative effects on innovation imposed by capital budgeting methods have been known and researched for a long time. In the 1980's, during the introduction of computer integrated manufacturing, Kaplan (1986) highlighted some of the issues. Companies then and still today apply very high discount rates which undervalue future cash-flows and favor short-term results. Since it is also difficult to quantify the benefits of explorative innovation such as increased learning, greater flexibility and sustainability aspects, explorative innovation is often undervalued (Kaplan 1986, Virtanen et al. 2013). However, if a company stops investing in explorative innovation, it is likely that they will start to lose market shares to competitors who are creating new and innovative solutions (Christensen et al. 2010).

However, as previously stated there are several aspects other than capital budgeting affecting the investment process that might create an imbalance between exploration and exploitation. Since older or less educated executives tend to use less sophisticated capital budgeting methods, such as the payback method, there is a risk that companies with such executives have a heavier focus on short-term investments as explorative investments seldom have short payback times. This is because explorative innovation usually has high research costs today, with potentially large earnings in the future (Daunfeldt & Hartwig 2014). The strategy of a

company can also impact explorative innovation negatively, thus constraining organizational ambidexterity. Companies tend to focus on current markets and customers as these generate their current revenues. Resources will therefore be directed toward exploiting ongoing products and customers because the company does not want to risk losing their current source of earnings. Thus, it will be hard to find support for investments in new product segments, new technology, and new markets. Moving away from a strategy that has been proven to be successful in the past may be difficult for many organizations. Companies can overcome the fear of losing their current customer segment if there is a big enough threat to their market which makes the company invest in new products (Bower & Gilbert 2005).

As previously stated in section 2.1.1, the selling of capital investments greatly impacts investment decisions (Bower 1970, Lumijärvi 1991). However, the impact might have a negative effect on organizational ambidexterity. Since managers want to be perceived as successful, they will support investments that are beneficial to themselves (Lumijärvi 1991). They will therefore have a bias in supporting short-term investments with quick results as this improves their reputation. Long-term projects as a consequence might be less likely to gain managerial support as they drive costs, and benefits may not show up until far into the future. This makes the process of selling investments very political rather than objective in the sense that managers choose investments that are beneficial to themselves instead of investments that are beneficial to the company (Bower 1970, Lumijärvi 1991).

2.2 Theoretical Framework

This study will use the Carlheim-Gyllenskiöld and Johansson's (2019) framework. The framework is based on the resource allocation framework presented by Bower (1970) and the concept of explorative and exploitative investments presented by March (1991).

Bower's original framework of the resource allocation process

In his study of four different companies, Bower (1970) created his framework of the resource allocation process. His framework consists of two sub processes, definition and impetus. *Definition* encompasses the activity of creating an investment proposal. Everything from creating an idea to the financial and strategic aspects of the investment. *Impetus* focuses on the journey of the idea from the creator to the decision maker. These two processes are shaped by the force of structural context. *Structural context* is for example what financial measures are

deemed important within the company or the design of reward systems. Besides definition, impetus and structural context, Bower (1970) also defines three levels within the organization.

The *operative level* consists of specialists. At this level, according to Bower (1970), most of all the definition process takes place. The definition process is triggered when a specialist identifies a discrepancy between the strategic objective of the organization and the organization's current position. For example, when the market environment changes there might be a need for investments in order to reach the company's desired position. The specialist will then create some investment proposals which are later presented to the decision maker at the integration level.

The *integration level* mainly consists of middle managers, for example divisional managers. Bower (1970) describes that the task of the middle manager is to converge technical aspects from the operational level with financial aspects from the corporate level. When this is done, they can present the investment proposal to the decision maker at the corporate level. The integration level is therefore not as influential in the definition process as the operational level as the integration level acts as a messenger between the operational and corporate level. At the integration level they are more focused on the impetus process. The impetus process is a very political process because the middle managers risk their reputation when they decide to support an investment. The middle managers will therefore only back ideas that seem to be beneficial to themselves. As a result, the middle managers are more preoccupied with choosing which ideas to support or not support than coming up with their own ideas.

The *corporate level* consists of the board and the executives of the company. The executives usually have a holistic view, and their focus is on the financial wellbeing of the organization. Therefore, they seldom involve themselves in the definition process as long as the investment proposals reach the company's strategic and financial objectives. Their role in the impetus process is to accept or reject the proposals. The main focus of the corporate level is therefore on the structural context. By deciding aspects such as what measures are important, they can shape the focus of the definition and impetus processes. For example, by using a high discount rate short-term projects are valued higher than long-term projects. This will in turn result in more short-term investment proposals. By creating the right structural context, thus indirectly creating the right definition and impetus processes, the corporate level can approve most investment proposals since investment proposals not in line with their thoughts are rejected at an earlier stage.

Phase \ Process	Definition		Impetus		Determination of context	
Corporate	Aggregate, Financial Company-Environment		Yes or No		Design of Corporate Context	
Integrating	Financial, Aggregate ↓	↑ Product Market Strategic	The company “wants” ↓	↑ The businesses “wants”	Corporate Needs ↓	↑ Subunit needs
Initiating	Strategic Product-Market		I have got a “great” idea		Product / Market not served by structure	

Figure 1: Bowers framework of the resource allocation process

Burgelman's strategic extension

Burgelman (1983) argues that Bower (1970) made the assumption that strategy is shaped by the structure. However, Burgelman (1983) claims that strategy and structure both affect each other. The corporate level creates an overall strategy for the company and this strategy will determine the structure of the company. The structure will then determine what choices are made at different levels of the company. It will also shape the definition and impetus processes influencing what investment proposals are created and supported within the organization. The investment decisions result in a realized strategy that in turn affects the strategy presented by the corporate level. Therefore, the strategy affects the structure, but the structure also affects the strategy. Burgelman (1983) extends the framework to include strategic context as well as structural context.

Bower and Gilbert's external forces

Bower (1970) and Burgelman (1983) only studied how internal forces affected the resource allocation process within companies. However, there are also external forces that shape the definition and impetus processes. Bower and Gilbert (2005) therefore built on the previous framework of Bower (1970) and Burgelman (1983) to include external forces of the product market context and capital market context.

Product market context encompasses how customer and market demand affect the definition and impetus processes. As discussed above in 2.1.3, the main factors of the product market context include the current market, and customer segment. Changes to the product market

context can come from changes in demand, the introduction of new laws, and technological advancements. These changes might force a company to create new structures, strategies, and processes. For example, if a widely used material in a company's core product become illegal, they might have to move from exploiting that current product to exploring new alternatives.

Capital market context includes the influence investors and lenders have on the resource allocation process. Due to information asymmetry between a company and its lender, the lender might require influence to make sure that their money is spent on the right investments. They can do this by either signing a contract that states what the money may be spent on or by assigning an overseer at the company. This will also affect the definition and impetus processes as the lender might not want the company to do risky investments into new products leading to a focus on exploiting current markets.

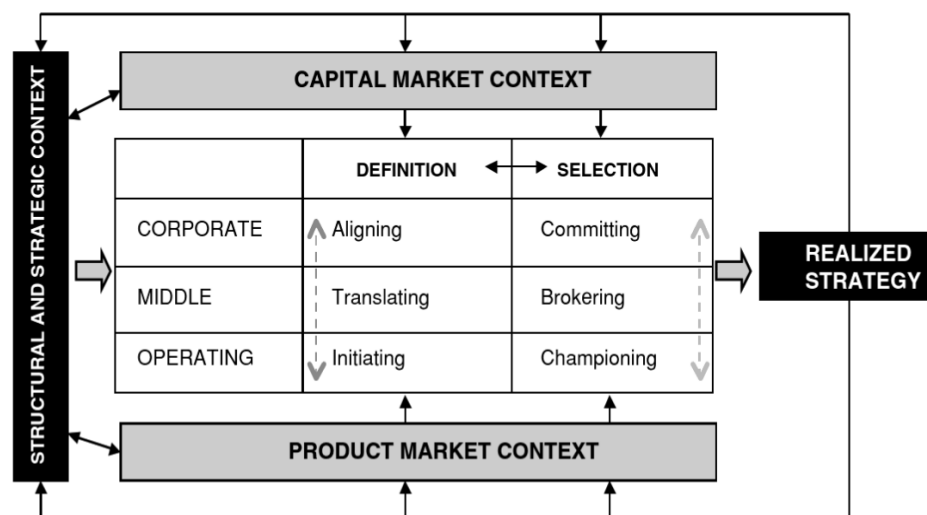


Figure 2: Bower and Gilbert's extension of the resource allocation process

Carlheim-Gyllenskiöld and Johansson's framework

Carlheim-Gyllenskiöld and Johansson (2019) studied how accounting influences the resource allocation process, and how it in turn influences organizational ambidexterity. The framework is based on Bower and Gilbert's (2005) framework for the resource allocation process but also includes March's (1991) concept of explorative and exploitative innovation. The framework illustrates how all parts of Bower and Gilbert's (2005) model contribute to a realized strategy which Carlheim-Gyllenskiöld and Johansson (2019) frames as the balance of explorative and exploitative investments. A company's resource allocation process therefore has a direct

impact on its organizational ambidexterity. This makes the framework well suited to answer the question:

“What challenges do companies encounter with respect to investment processes when confronting pressures to become more radically innovative? How can companies address such challenges?”

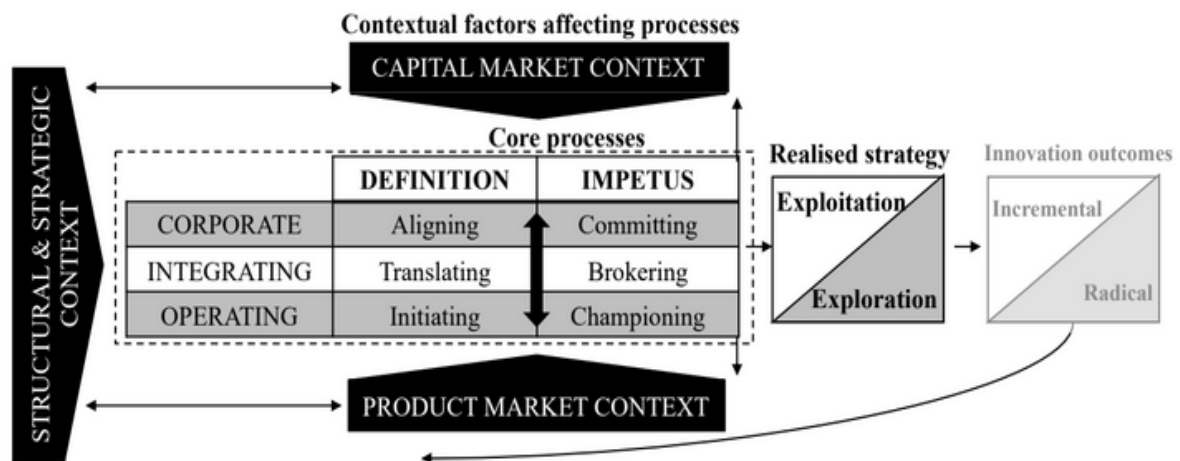


Figure 3: Carheim-Gyllensköld's extension of Bower and Gilbert's resource allocation process

3. Research Methodology

In this section the research methodology is presented. The choice of research design is described and justified in section 3.1. Section 3.2 discuss the choice of the case organization and why it works well in answering our research question. Subsequently, section 3.3 and 3.4 describe how data was collected and analyzed. Lastly, in 3.5 the quality of the research is discussed.

3.1 Research Design

The role of accounting in creating explorative innovation is an under-researched topic (Raisch et al. 2009, Gschwantner & Hiebl 2016, Bedford et al. 2019). There have mostly been quantitative studies into the area of the investment process. These studies are usually based on surveys and focus heavily on the capital budgeting aspect of the investment process. The surveys tend to only gather surface level data together with formal answers rather than information on what is happening in practice (Lumijärvi 1991, Tholin 2003). According to Pike (1996), additional surveys are of little value and case studies would be of greater benefit to the research area as they put a phenomenon into context. Context and experience are crucial in order to gain a deeper understanding and expertise in any area (Dyer & Wilkins 1991, Flyvbjerg 2010). It is only through experience that a person can advance from beginner to expert. If people only learn context independent knowledge and rules, they will always stay at a beginner level (Flyvbjerg 2010). To gain a deep understanding of the investment process of explorative innovation, an in-depth single case study is suitable in order to capture the complex mechanics involved. As shown in our framework, the investment process is highly affected by contextual factors such as company structure, strategy and product market. This makes the in-depth single case study method more suitable than using surveys as it better capture contextual factors, and serves better to gather in-depth information.

3.2 Selection of Research Setting

Since our aim with this paper is to highlight how an organization with exploitative processes can make the shift toward an ambidextrous organization, studying a company in a transformation phase with long historical exploitative success would strengthen our case by showing what initiatives they take when trying to make this shift. We furthermore thought it

would make a great case to research a traditional market under great turbulence to investigate the tensions of processes, the issues associated with long historic success, and what efforts are made to adapt to the new market climate. We had the opportunity of coming in contact with AlphaCo who operate on the automotive market. AlphaCo are experts on incremental innovation and adapting their existing operations over longer periods of time but have greater difficulties in radically changing their operations. The multidimensional change stemming from multiple disruptive forces, many of which are outside of the automotive industry, demands that the trade-off between short-term efficiency and long-term variability is handled with great care. Therefore, it is interesting to look into what changes AlphaCo make to adjust their operations when encountering a new market climate, and also study their challenges.

3.3 Data Collection

3.3.1 Primary Data

To understand how established investment processes influence the transition of an organization to become ambidextrous, a key source of information has been interviews with employees. All of our interviewees could provide insight to our research question as they were involved in the processes of innovation and accounting, and all were informed about the scope of our study before the interview took place. Our main contact (senior executive) supplied us with the possibilities to reach out to people with different backgrounds which gave us a good foundation for our study. We signed an NDA to guarantee the anonymity of both the organization and the interviewees. This was crucial as we wished to understand their context, and to get that knowledge we had to get insight into their ongoing projects, many of which are still classified. It also created an open communication as the employees could speak their minds without much constraint.

The interviews were semi-structured as it allowed us to be flexible depending on the situation, experience and knowledge of the interviewee. It allowed us to follow-up on topics and ideas that emerged during the interview. This was beneficial as it allowed us to explore topics we might not have had knowledge about beforehand (Ryan et al. 2002). Both authors attended all interviews so that we could complement each other with spontaneous questions to ask the interviewee. Over the course of three months we had an interactive communication with AlphaCo, gathering data and finding new interview objects. A total of *six* interviews with *six*

employees at AlphaCo were held. We made sure to interview employees with various gender (three women and three men), background, experience and organizational responsibility. *Three* of the interviews were held face to face at AlphaCo's facilities, and the rest were held over the telephone. This was due to the unavoidable situation caused by covid-19. All interviews were however fruitful and lasted on average 1 hour. We had the possibility to record all interviews which made it possible to go back to the material and reflect upon it.

The first interview was held with our main contact person who gave feedback on our initial idea, and also described the context of their organization in which our research question could fit. This was beneficial as it enabled us to revise our initial idea of how things were at the organization, and to better approach the information gathering process. The first interviewee also gave us a presentation of how the resource allocation structures worked in the organization, and what its implications were. After understanding the structures and departments involved, we received our second contact involved with the strategic innovation process and conducted the interview. From this meeting we received several new contacts, some involved with innovation at the strategic and operational level, and some within accounting and finance. We designed our interview guide based on our theoretical framework and later adjusted it continuously based on the interviewee's role within the company and their unique experiences (Dubois & Gadde, 2002). In the end we received information from both the department of innovation, and the department of accounting and finance which gave us great material when answering our research question.

3.3.2 Secondary Data

To complement the information received through interviews, we asked the employees to send us internal documents describing processes and guidelines to deepen our understanding of the context. We received internal documents stating product and concept development phases, and the phases' different evaluation criteria. We also used publicly available annual reports and their sustainability reports when, among other things, developing our research questions. The discourse which they used in their reports gave us insight into the overall cultural mindset. Furthermore, news and social media articles were internalized in our research as we could find employees distributing different posts and articles about, for example, the organization's strategic approach.

In the beginning when Covid-19 was not an issue, we spent time at their headquarter where we could observe their professional setting in real life and observe multiple artefacts. We got a clear understanding of established processes when conducting small tasks; such as booking conference rooms through interactive touchpads in the facilities or manage external people as ourselves.

3.4 Data Analysis

After each interview we discussed our initial impressions in order to identify the broader themes of each interview. This was helpful in order to identify areas to investigate further and areas of less importance. The interview guide was also improved upon after each interview as we better understood the most relevant areas and processes of the company. All the interviews were recorded and transcribed shortly after each meeting. Transcribing the interviews helped us gain more in-depth knowledge and helped to highlight answers that might not have seemed important during the actual meeting. After transcribing the interviews, the information was coded into 5 categories: 1. Background 2. The traditional investment process 3. Changes in market conditions 4. Initiatives toward innovation 5. Issues in the transformation. By coding the information from the interviews, it became easier to connect the data to the theory and framework. While collecting and analyzing data and matching these with our framework, we have used an abductive approach in order to let the understanding of the research question develop over the duration of the study (Dubois & Gadde 2002). Over the course of the study, there was an ongoing search for viable theories as our empirical observations and theory did not always match. All the interviews were held in the interviewee's native tongue Swedish to avoid misunderstandings. The citations have later been translated to English.

3.5 Quality of Research

As we e-mailed the interview questions before each interview, it can be criticized that this allowed the interviewee to prepare their answers and gloss over important issues. However, we chose to send the interview guide before the interviews because the topics we research are relatively complex. By not allowing the interviewee to prepare themselves there is a risk that they might not be able to answer the questions, or they might give answers that are wrong. By allowing the interviewee to prepare themselves it is also possible to go beyond shallow information and receive information enabling better empirics and discussion. We therefore

believe that the positive aspects outweigh the negative of letting the interviewees prepare themselves for the interview.

The interviews have been conducted in the interviewees native language, Swedish, and later translated into English. There is therefore a risk of translation errors. However, we believe that allowing the interviewee to answer the questions in their native language allows them to give more correct and complex answers.

Due to the Covid-19 outbreak there has been great limitations in the availability of AlphaCo. AlphaCo were forced to stop production and the great majority of all employees were furloughed as a result of Covid-19. It was therefore increasingly difficult to get in contact with interviewees in order to conduct interviews.

4. Empirical Findings

The purpose of this section is to introduce the findings from our empirical study. In section 4.1 the organization's background is presented. Section 4.2 will describe the traditional investment process. In section 4.3 we set out to describe some of the most relevant market changes that affect AlphaCo and that make them create initiatives toward explorative innovation which will be covered in section 4.4. Lastly in section 4.5 we will describe what organizational issues have occurred as a consequence of the many market changes.

4.1 Empirical Background

During the first half of the 1900s our case company launched a technological innovation which efficiency far exceeded that of existing products. The innovation was radical for its time and by incrementally improving both the innovation and the organizational manufacturing setup, our case company efficiently encountered minor market changes. AlphaCo have continuously made new sales records, had continued organic growth, and have continuously increased their market presence. Their pace of incrementally improving technology, and their technological focus have enabled them to produce highly competitive products over long time. However, the situation today is different in the way that the market is radically changing in a pace AlphaCo have never seen before which creates uncertainties in how to confront the challenge. The product that got AlphaCo to where they are is no longer as unique as other competitors have managed to catch up to the same level of efficiency, while also new explorative technology has appeared. Multiple disruptive forces from many different actors, and ways of combining technology never seen before radically change the dynamics of how incumbent actors behave and engage in product development. As stated in one of our interviews:

“10 years from now, we have no idea who will come out on top because the change is that radical.” - Executive manager within innovation, AlphaCo

The technology focused AlphaCo now stand in front of the challenge to transform their business and adapt their core technology to fit the new market conditions. Even if AlphaCo for a long time have been aware of the changes, they have not seen profitability within electrification and automation. However, as the technology is getting better and profitable, they

begin to work with the challenge to go from leaders on incremental innovation toward organizational ambidexterity.

AlphaCo are on paper a hierarchical organization but are in reality a flat organization with faint power hierarchies. As one stated:

“We are formally an organization based on hierarchies, but as with many Swedish companies our culture of prestigelessness is anchored within the whole organization. This flat structure enables me to call nearly anyone and get an answer. You trust and acknowledge knowledge, executives do not know everything.” - **Business development manager, AlphaCo**

The organization produces goods and provides connected services. With several production sites they have market presence all over the world. They have strategically located their sales and service network to be able to help customers with their product wherever they are in the world. They have historically set up their production and manufacturing so that they with incredible speed can assist their customers when they are in need. Historically AlphaCo have mainly focused on incremental innovation and have therefore distributed a significant part of the R&D budget toward exploiting current assets. How much resources in the form of human- and financial capital departments receive is decided on a yearly basis taking headcount into consideration. In tandem with significant market changes many internal changes are also currently in progress, many of which are made to stimulate explorative radical innovation. This change was in progress during the time of this study and had been running for a few years. During our first meeting with the head of innovation we were introduced to the overarching strategy of AlphaCo. The general strategy contains of three investment horizons as shown below.

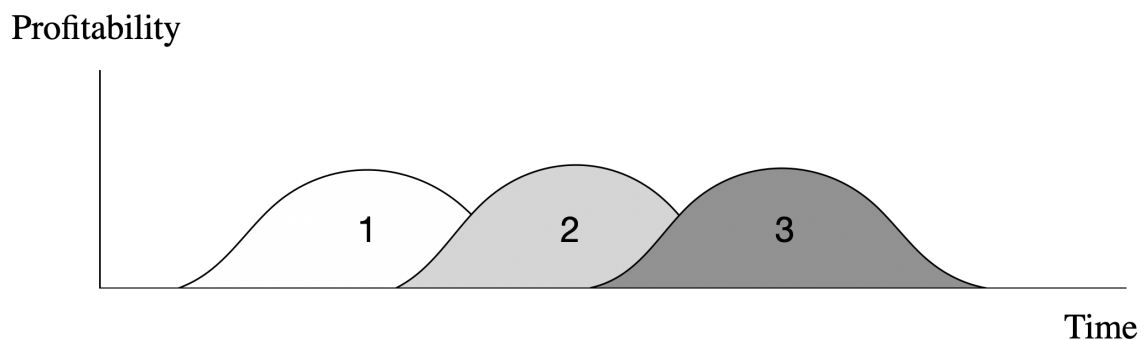


Figure 4: The three investment horizons of AlphaCo

The first horizon accounts for cash flows nearest in the future, the second horizon for cash flows second closest, and the third horizon cash flows furthest in the future. This would enable the organization to make smooth transitions over time and have the ability to finance current and future operations. Projects are often measured on profitability over all horizons which may cause issues that will be discussed in section 4.5. AlphaCo's intention is to move resources from horizon 1 to horizon 3 to get a better balance between explorative and exploitative investments. In the next section (4.2) the traditional investment process that finance projects in horizon 1 and 2 (mainly accounting for incremental innovation) will be presented.

4.2 The traditional investment process

For the last 70 years, AlphaCo's original disruptive innovation has been the main product which have made them successful. It has been their cash cow to draw financing from when initiating new projects or investing to improve the innovation further. Their success built on great knowledge and expertise which only grew bigger throughout the 20th century. At the same time investment processes and resource allocation processes took form to comply perfectly with this innovation. All projects that worked to improve the core technology or expand production of the innovation could be evaluated and accepted faster because they had great knowledge of the innovation and long experience.

AlphaCo have an established evaluation process which determines whether a project will be commercialized or not. The purpose of the formal decision process for investments is to reduce the risk of a project, and then lastly decide upon commercialization. The process of initiating projects that comply with the traditional organization is very pipelined. This process is a yearly ongoing process and strictly controlled. The process is as follows:

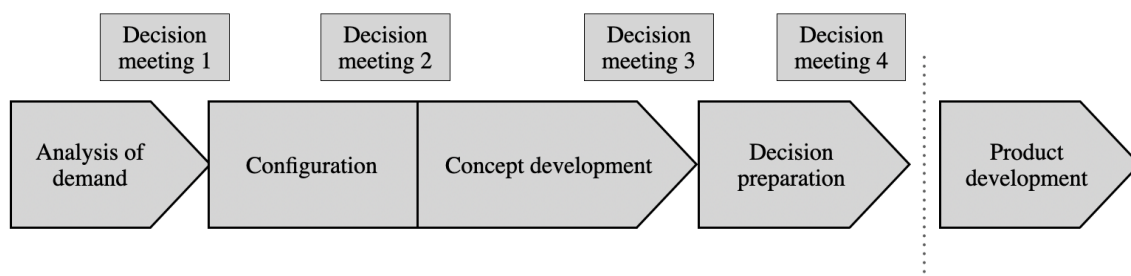


Figure 5: The traditional process for investment approval

Analysis of demand

First, there needs to exist a clear demand for the concept with clear benefits to both AlphaCo and the customer. The benefits should be estimated based on product properties or a business case and then presented at a product planning meeting. If there is a clear need from the customer, AlphaCo start to screen for different solutions. This leads to the next stage.

Configuration

AlphaCo put together a small team with expertise within the areas the project concerns. The objective is to identify and eliminate as much risk as possible from the project. The stage ends by presenting the identified risks and some early concepts for concept development.

Concept development

The team continues to work on eliminating technical risk. When the concept is finished and risk is reduced to a manageable level, a meeting is held to which the relevant divisions of AlphaCo are invited. They vote yes or no whether the concept is ready or not. While eliminating risk the project group also begin to put together a business case for how the project will affect AlphaCo and their customers. When this is ready it leads to the next decision point and a decision is made on approval to start a decision preparation.

Decision Preparation

An assignment directive is put together which includes demands, the selected concept, remaining risk and the business case. It should also include the first version of the project's targets in respect to time, cost, properties and profitability. At decision point four the concept team pass on the decision to initiate product development to a product team. The product development process is separated from the concept development process and will not be discussed further in this paper.

In contrast to the formal process, the first step in an informal setting is requesting resources for the desired project. Asking for resources creates a recognition which is crucial. Employees in executive roles must beforehand sell what investments they need in order to run their desired projects. This implies that many decision points in the formal decision process act as mere formalities, and anchored projects flow through with ease since they already have been informally accepted by networking:

*“For explorative projects, one must anchor the initiative and find a distinguishable sponsor so that the initiative may survive organizational setbacks and changes that require them to prioritize differently. Someone who can guarantee the delivery of the project.” - **Strategic project manager, AlphaCo***

When it comes to the traditional investment process, an investment has a clear belonging to a division and therefore a clear owner. The required resources are often known which leads to the project being sold to the divisions necessary to carry out the project. Concerning explorative projects, they rarely have a clear owner or known resource requirement. The selling of capital investments is therefore often instead directed toward the top management to anchor it, assuring its resources.

4.3 Changes in market conditions

The current market changes AlphaCo identify are perceived as disruptive as the innovation AlphaCo first launched in the early 1900s. A global shift and pressure to reduce greenhouse gases has driven the electrification of the automotive industry. New technology in automotive driving also drives a change in the usage and in the way the automotive market works. A new era of fast developing technology from companies outside the automotive industry has had a major impact, not only on AlphaCo, but in the majority of all markets. Forward and backward integrating actors are also the result of increased accessibility in technical knowledge, which increases competition. Another worrying fact has been that the vast majority of all investments into the automotive market are made by external actors such as financial institutions and big tech companies. This changing dynamic puts pressure on AlphaCo to change their traditional business model in several ways. Certain cash flow streams from their current product will not be as certain in the future, and the production process together with their organizational structure will likely have to be realigned to the new market climate. In this new climate, traditional financial measures, inherited from past evaluation processes, no longer work to properly measure economic value. As an interviewee expressed it:

“We adjust the measuring process according to the situation. Autonomous driving would never pass a payoff calculation, it would be tossed out from the start and the only thing to do is to go home and do it again. The formal process of resource allocation is for support, not simply for control and mindlessness. We must be assured to hire the right competence

that can evaluate situational domains.” - Executive manager within finance and innovation, AlphaCo

Aside from financial processes, another very important aspect during market change is the organizational culture. In the case of AlphaCo, change has brought a clear insight:

“The most difficult thing about making a change journey is to see what is behind the corner that you have never seen before. This requires working in a different way, and you have to change your perspective. If you have never worked to change your perspective, it is a pretty tough expectation that you will be able to do it from one day to another. AlphaCo are pretty good at changing, the issue is that we need to ensure clarity in what aspect we should change so that we stay aligned. That’s when our clear executive directions are really helpful.” - Research and Innovation Officer, AlphaCo

A winning concept of AlphaCo has been the ability to sell the entire package containing the product and service. AlphaCo have not yet fully adapted electrification and automation in their products, but that is because it is crucial for them to not forcefully integrate new technology but instead integrate it in a natural manner so that they do not deliver a flawed experience. It is easy to adapt technology, but integrating it into a concept needs careful thought. Furthermore, they need to develop a culture that has inherent capabilities working with change. As stated above, a mix of both exploitation and exploration is necessary to be able to create a long-term prosperous company. The organization must be flexible to change and align internal processes to the external environment:

“I think we can become better at creating a culture which enables new projects and new initiatives to a faster pace than we as a big organization are used to. I think that would make a big difference.” - Strategic project manager, AlphaCo

AlphaCo are currently changing many existing processes to create an environment prone to reduce lead times for projects of explorative nature. For an explorative project to wait one or two years before resources are released, the project may already be dead. These revised processes together with many other would allow for more agility and therefore enhance abilities to quicker align with an uncertain external environment.

*“We will in the future adapt electrification and automation, but it has to be a stepwise approach. This transformation is pretty slow and is like changing the direction of a big ship. It may be irritating for us to see the fast pace of the outside world, but we must assure a high-quality experience of our concept.” - **Business development manager, AlphaCo***

AlphaCo’s mentality is that even if they do not know what the perfect investment process looks like, they can still move forward. By testing, learning and acquiring the right competences, unclarity becomes clear over time. AlphaCo do not want to copy the journey or competence of another company. They will instead observe their environment and leverage their assets when building their future. When no one knows what the future will look like, the best thing to do is prepare the organization for a transition, making it as compatible as possible for the future. What these preparations are will be further described in next section 4.4.

4.4 Initiatives toward innovation

The first step towards change is becoming aware of the fact that the organization has to change (Hayes 2018). As stated in the previous section (4.3) this awareness is strongly present. They are aware that focusing on financial measures, such as payoff when evaluating innovation, may have harming consequences and they know that they must revise many processes to better fit an agile and innovative company. AlphaCo have launched several initiatives to make a shift from mainly exploiting, to working ambidextrously. These initiatives will now be explained in greater detail.

The innovation incubator

AlphaCo’s innovation incubator is a new initiative where employees apply to have the opportunity to create new ideas and develop new business areas. The goal is to allow employees to express their ideas in a more explorative environment to make use of hidden knowledge and competences. The incubator is strictly separated from the main organization to minimize any restricting effects. Projects that are commercialized from the incubator can become separate subsidiaries with the aim to maintain independence. The process is highly entrepreneurial and designed to let the employees collaborate with managers to explore and develop ideas.

“It is a process where you do not really know what you are doing, but we learn how to pursue innovation ... This is R&D’s way of accessing innovation processes they earlier haven’t had access to.” - Strategic project manager, AlphaCo

Teams responsible for projects go through stages of executive evaluation and pitch their progress and analysis to move forward in the process. Their projects are evaluated on several factors including the composition of the team, the potential in commercialization and scaling, how innovative the idea is and the usefulness for the customers.

Financial measures

Two financial initiatives that improve the rate of explorative innovation for AlphaCo are creating separate budgets for innovation along with the earmarking money for exploration. The innovation incubator is covered by a separate budget which has its benefits:

“In many other processes you are asked to perform different financial predictions in a phase where there are more important aspects to focus on, but the financials must exist to defend oneself, and to give your boss something to base a decision on. That is a weakness we try to strengthen in our innovation incubator.” - Strategic project manager, AlphaCo

Creating a separate budget and earmarking money with the underlying ambition to explore, makes for a greater understanding that these projects are truly separate and should not be evaluated in the same way as traditional business. This understanding in turn prepares the organization for the future.

“The separate budget allows innovative initiatives to be separated from the traditional organization with a separate investment horizon that is not connected to any particular financial measures. It also allows for an acceptance that executives can still be right if they said yes to something 6 months ago, and half a year later says no.” - Strategic project manager, AlphaCo

Other areas of strategic importance such as automation and electrification have been separated from the traditional evaluation process described in 4.2 as the board understands the strategic importance of separating these areas from the traditional processes. These areas are reported

separately in the same way as the innovation incubator in order to gain momentum. Projects that are not separated tend to be framed exploitatively, and over time lose its explorative nature.

Strategic partnerships and managerial initiatives

AlphaCo have assets they can lever to develop new ideas and have a competitive strength in initiating projects. Many ideas are created internally, but strategic partnerships are still important. They invest and create strategic partnerships with companies that develop certain technological components and have good communication with institutes and organizations so that competence can be shared.

Another strategically important aspect is to employ new skills. AlphaCo have hired new innovation managers in key roles that can take ownership of projects and drive changes internally. This role is crucial as networking in many organizations (as stated as the informal decision process in 4.2) is how change is created.

The last part is having top management support for change. All employees we interviewed had the shared image that top management in their communication and vision had been very clear that AlphaCo should be part of the change and ultimately push change. The clarity of the vision is strong and acts as a strategically important aspect to be able to transform. The vision serves as a strong initiative to enable change and adapt the traditional culture to an environment that gives greater priority to exploration.

4.5 Issues in the transformation

AlpaCo's initiatives for explorative innovation act as a response to changing markets, to go from a leader in incremental change toward an ambidextrous organization. Old processes and a cultural heritage however bring challenges, which we in this section will address.

Issues with ownership

Past successful explorative initiatives such as automation and electrification have had a clear executive sponsor, someone with ownership over the initiative that can sell it to the top management. They have been clearly connected to corporate strategy and have therefore had someone taking ownership of them. Issues with ownership take place in more subtle circumstances at lower parts of the organization:

*“Some explorative ideas work well in a first stage of concept development, but we have had projects getting cancelled when trying to realize them. In one particular project the issue was that the department that developed the idea did not have direct control over the business area that the idea took aim at. The department in charge did not have the time or the resources to take the idea further which resulted in both departments noting that it was important, but the project was later cancelled.” - **Business development manager, AlphaCo***

In above mentioned case, project failure was due because neither department had the resources to take ownership. This illustrates a fundamental issue when involving multiple departments in explorative development. Many aspects such as time, resources and motivation need to coincide at the same time. Since the change AlphaCo want to do is radical, it will require many divisions of the organization working together. This creates challenges as the most important initiatives demand all departments working together, however these are the most demanding initiatives since it takes long time to find and combine competence. Having clear ownership over the project is important, but also creates confusion as it is difficult to decide which department should own it.

Issues with the resource allocation process and project evaluation

To date, the resources allocated to explorative initiatives have been limited, and the pace at which initiatives get accepted or rejected has been slow. Resources are allocated on a yearly basis and this pace is too slow for explorative projects.

*“If a project leader wants to make a physical investment or invest in information technology, it works well. The question is how much resources are allocated in different areas. Some years ago I could build any building I wanted, but I could not do anything digital in it because that was another budget, and it was very slimmed [...] We are very good at incremental innovation, but the investment process for explorative innovation is a bit flawed.” - **Research and Innovation Officer, AlphaCo***

Even if the evaluation process of explorative projects is separated from the traditional business, a culture of risk-averseness still has a heavy presence. Long story of success stemming from incremental development has made the organization unaccustomed exploring ideas far outside their core business. Projects that go outside of the core business are therefore often scrutinized

heavier than other projects. Although business units like the innovation incubator are separated from the traditional organization, senior managers in decisive roles decide which projects will go through the next stage of development. Many of the evaluation criteria in the innovation incubator revolve around risk analysis:

*“In the material we have received, our presentations to the executives must contain a section discussing risk mitigation... We often talk about the risk of cannibalization, but we must innovate. Otherwise someone else will come and do what we didn't and take that added value. Apple would not think about the risk of the iPhone cannibalizing the iPod since the iPhone now creates a new cash-flow stream.” - **Business development manager, AlphaCo***

It should be noted that being risk-aware, rejecting projects that would fail, is something positive. However, having risk mitigation hindering the organization from innovating is dangerous. Explorative projects must be accepted to have an inherent risk.

*“...Of course, we have to be prepared that there are risks, but we should not highlight and pitch them. What? Don't we even believe in our own concept? At AlphaCo we are very used to risk mitigation, we analyze what the obstacles are to make a project fail.” - **Business development manager, AlphaCo***

The consequence is that AlphaCo tend to go back to what they are comfortable working with and developing. Another force pushing for exploitative work is their concept of investment horizons. Considering the three investment horizons illustrated in section 4.1, projects need to be profitable over all horizons. This may cause them to be developed into exploitative projects as exploration may have difficulties generating cash flows in early stages. The many complexities of exploitation and exploration will be further analyzed in the next section (5 Discussion) by using our conceptual framework as our analytical tool.

5. Discussion

Here, using Bower's (1970) extended framework presented by Carlheim-Gyllenskiöld and Johansson (2019) we explore how changes in the product market context impact AlphaCo. This section discusses our case findings in the context of our theoretical and empirical background. In 5.1 we analyze which changes have occurred in the product market context. In following segments, we analyze how these changes have impacted AlphaCo's strategy and structure (5.2), definition process (5.3), impetus process (5.4) and lastly how the changes to these processes have impacted AlphaCo's organizational ambidexterity (5.5).

5.1 Changes in product market context

Product market context plays a crucial part in shaping a company's investment processes since it decides what markets and products that are worth investing in (Bower & Gilbert 2005). During the last decade there have been significant changes to AlphaCo's product market context. Due to increased awareness of the negative impact fossil fuels have on the environment, the demand for electric vehicles have increased which has affected AlphaCo's product mix. There has also been rapid progress within technology and digitalization such as autonomous vehicles and increasing possibilities to monitor the need for service of existing vehicles. Furthermore, there has been a significant increase in the number of actors within the automotive industries where battery manufacturers forward integrate into producing vehicles and technological giants such as Google, Apple and Amazon are slowly entering the marketplace. Even though these companies are moving forward, we have observed that AlphaCo remain calm. Delivering a great concept with a great product and service requires an established system and network around the world which AlphaCo have developed over multiple years. However, AlphaCo still work proactively as they aspire to drive change. They have therefore reevaluated their current strategies and structures to once again be able to radically change the market. Companies imposed by change cannot mindlessly rush into change initiatives but must logically consider which initiatives would be beneficial in their specific context.

5.2 Strategic and structural context

According to the Carlheim-Gyllenskiöld and Johansson (2019) framework, changes in the product market context will lead to changes in the strategic and structural context of the company. It is not only beneficial to change; it is crucial for the long-term survival of the company (Tushman & O'Reilly 1996). This is true in the case of AlphaCo. The changes to the product market context have put pressure on AlphaCo to change their strategy and structure. New initiatives such as the innovation incubator, create separate investment decision processes that support explorative projects which in turn support change. The projects that are accepted by the innovation incubator are given greater freedom than projects in the traditional investment process and are almost run as separate companies. AlphaCo have realized that their old strategy of incremental improvements will no longer be viable in the long run as their once radical core product is becoming obsolete. This implies that for long-term survival, companies must change together with the market in order to not become obsolete. It can do so by creating a balance between exploitation and exploration (Raisch et al. 2009). Initiatives such as the innovation incubator therefore create separate investment decision processes that support explorative projects which in turn help the organization adapt over time.

Kaplan (1986) and Christensen et al. (2010) highlight multiple issues with traditional financial measures. For example, how certain benefits are difficult to quantify and how there is a value to innovation in and of itself. AlphaCo acknowledge that changes should be made to the financial measures on which projects are evaluated to better value exploration. This has been recognized in interviews with the financial, strategic and innovative side of AlphaCo as explorative projects often get rejected on financial grounds. Measurements are an important part of the structural context and without the right measurements explorative projects will not even make it through the screening stage. As stated above, investments into autonomous vehicles would never make it through a payback calculation where standard payback times are 1.5 to 2 years. It is still unclear which measurements that are valid for explorative innovations. Therefore, traditional measurements are still being applied to explorative projects. In order to get around the inherent problems of traditional financial measures AlphaCo have created a new evaluation process for explorative projects. In the new process traditional measures, such as return on investment, are still calculated but more weight is given to non-financial criteria depending on the relevancy to the explorative innovation. Companies therefore need to create new criteria that are better suited to explorative projects, and apply relevant measures

depending on the project to rightfully measure the value of explorative innovation. Otherwise the organization will reject explorative investment proposals which ultimately will cause them losing to their competition as they become obsolete.

5.3 The Definition process

By changing the structural and strategic context a company also affect the way the definition process works (Bower & Gilbert 2005). AlphaCo have strategically and structurally changed toward a more equal balance between explorative and exploitative investments. They have also introduced initiatives for core processes to follow the same transformation in order to have the organization working toward the same goals. One of the main initiatives to change the definition process has been the introduction of the innovation incubator.

According to Bower (1970), the definition process is started by identifying a discrepancy between the strategic objective and the current position of the company. In the traditional investment process, it was not the case that an identified discrepancy between strategic objective and the organization's current position was the starting point of the definition process. Investments at AlphaCo were made continuously in order to incrementally improve the current product at that time. However, the changes to the product market context have created a discrepancy between AlphaCo's current position and their strategic objectives. The changes in strategy toward more sustainable solutions come with the challenge to create more explorative ideas. For example, AlphaCo have realized that if they do not invest in electrification, they risk losing their position as a market leader. The main solution to this challenge has been the introduction of the innovation incubator. The innovation incubator allows for any employee to present his or her identified discrepancies which starts the definition process for explorative ideas. AlphaCo make use of the widespread knowledge and competence of their employees to equip the organization with new ideas by making them project leaders over their own initiatives. It might therefore be the case that the definition process of routine investments is constantly ongoing and does not need a discrepancy to start while explorative innovation needs a discrepancy in order to start its definition process. It is therefore important for organizations in turbulent markets to have mechanisms creating a sense of urgency, and therefore creating the discrepancy needed in order to initiate the definition process of necessary explorative investments.

Bower and Gilbert (2005) claim that companies want to focus on their current market segment and customer base as exploring new products and markets is perceived risky. AlphaCo are strongly risk-averse which has led to the killing of multiple projects. As an initiative to reduce the risk of explorative projects the innovation incubator has a 6-month definition process. During this time the teams get a chance to explore the market which allows for more accurate projections thus reducing the risk. They also get a chance to gather feedback and develop their ideas further which also reduces the risk of the project. If project risk is reduced it has more likely to be integrated within the organization as it is strategically anchored with the customer base and the core offering. If projects cannot be integrated into the core offering there is a high risk that explorative projects are rejected. This indicates that traditional organizations comfortable with exploitation must find new ways to cope with risk and exploration as the risk of exploitation is different in nature, to be able to become ambidextrous.

5.4 The Impetus Process

Just like the definition process, the impetus process has also been changed to be aligned with explorative innovation. In the creation of explorative ideas, the impetus process in and of itself has been a major problem for AlphaCo. In the traditional impetus process, the lead time to get a project accepted or rejected has been about two years. The urgency to implement incremental changes to current products has not been very high. The lead time of two years which stems from their exploitative processes acts heavily as an obstacle for explorative investments as they often become obsolete within that time period. AlphaCo have therefore focused on reducing the length of the impetus process. By introducing the innovation incubator as a separate impetus process for explorative ideas, AlphaCo have been able to reduce the lead time, and thereby the length of the impetus process, from 2 years to 6 months. Many explorative projects need quick decision-making since they otherwise quickly become obsolete. Organizational processes for explorative investments must therefore be designed in line with the nature of exploration in order not to kill innovation. They need to be fast paced with decision forums that thoughtfully can develop, finance, and commercialize explorative projects.

According to Bower (1970), Lumijärvi (1991) and Tholin (2003), the selling of capital investments is a key aspect in the investment process. This was also the case within AlphaCo as it was brought up in multiple interviews. In order to gain impetus through the investment process it is important to have a sponsor. In the traditional process, the investments usually

have a clear belonging to a certain division, and it is clear which divisions that are necessary in order to carry out the project. It is therefore important to sell the investment to the necessary divisions in order to secure resources. The selling takes place both during formal meetings, but also in informal settings such as phone calls or come by the manager's office as identified by Lumijärvi (1991). This informal selling of investments often results in the decision meetings rubber stamping approvals for projects and the meeting is mostly a formality. However, in the case of explorative investments, it's not always clear which division the project should belong to or even which resources that will be necessary in order to realize the project. This makes it more important to sell the explorative investments directly to the top management, rather than to the other divisions since having a clear sponsor that can take ownership of the project and carry it through obstacles in the investment process is crucial. All ideas at AlphaCo must be sold in some way, and the innovation incubator is no different. After the 6 months of definition, the explorative projects reach the end of the impetus process which is a decision forum. The employees get the chance to create a case and sell it to executives in decision roles. This forum does not rubber stamp projects in the same way as in the traditional investment process and so far no projects have been accepted at the innovation incubator's decision forum. There are therefore clear differences between traditional investment process where decisions were made in informal settings and the explorative investment process where the final decision for projects from the innovation incubator is made in a formal decision forum. While these differences exist, explorative innovation in a big organization may have difficulties in finding a natural owner since it often involves many parts of the organization, and many are occupied with exploitative work. Having a clear sponsor taking ownership of the project may therefore prove vital for the survival of the explorative innovation.

5.5 Organizational ambidexterity

As the Carlheim-Gyllenskiöld and Johansson (2019) framework dictates, changes to the definition and impetus processes will impact the balance between explorative and exploitative innovation.

As stated by Tushman and O'Reilly (1996), having one part of the organization working with current operations and one part working with new innovative initiatives enables for easier adaptation to changing markets. This is similar to how AlphaCo have implemented the innovation incubator on the side of their core business as well as creating separate business

areas for electrification and autonomy. This will allow projects that would otherwise be rejected in the traditional investment process to be explored. Tushman and O'Reilly (1996) also found that a key aspect to ABB's ambidextrous success was creating smaller teams in order to increase the sense of ownership and accountability for results. Smaller teams also allow for a higher degree of flexibility which is better suited for explorative projects (Tushman & O'Reilly 1996). This is also similar to how the innovation incubator functions within AlphaCo as smaller teams get to work more or less independently from the rest of the company.

In accordance with ideas of previous literature the innovation incubator should be a good initiative in order to increase the degree of explorative innovation and make AlphaCo more ambidextrous. However, no projects from the innovation incubator have been accepted by the decision forum or been integrated into the core business. This does not have to mean that the incubator is not fulfilling its purpose. It could simply be the case that none of the ideas presented have been good enough and the ideas have correctly been rejected. It could also be the case that AlphaCo's culture of risk mitigation and short-term profitability targets have a strong influence on the innovation incubator's decision forum. Explorative projects might therefore be evaluated by exploitative standards. Due to the innovation incubator being a new initiative it is hard to know for sure whether it is efficient or not. It is however clear that a greater amount of explorative ideas is created and evaluated through the implementation of the innovation incubator. This implies that even though it sometimes may be hard to measure the effectiveness of explorative work, it is vital for steering a traditional culture toward an organizational culture comfortable working ambidextrously.

According to Andriopoulos & Lewis (2009) tensions in an organization may arise as contradicting goals and structures exist within the same firm. These tensions can however be negated by creating a culture which relies on a strong, widely shared corporate value system promoting sharing of information and resources (Tushman & O'Reilly 1996). In alignment with Benner & Tushman (2003) corporate management of AlphaCo have created new channels to stimulate exploration and have created new decision processes for exploration which in turn creates structures that allow for a better explorative culture. At AlphaCo we have identified multiple tensions indicating that the culture has not yet had the time to adapt to the new market condition which is crucial in order to become ambidextrous. Areas of explorative innovation are still not receiving sufficient resources. Projects are rejected because of risk mitigation and projects are shut down as explorative projects lack ownership to carry the project through the

development process toward commercialization. Our findings indicate that the reason for this is because the traditional way of conducting business are still prevalent within AlphaCo. For any organization wanting to make a leap to become ambidextrous, it must prioritize exploration, allow for its inherent risk, and projects must have clear ownership. To be able to make the leap it is crucial to have support from the corporate management. However, without an overarching culture that embrace explorative work, changing into an ambidextrous organization will be much more difficult.

According to the authors Taylor & Helfat (2009) established actors who are about to make a transition need links between the organizational units responsible for developing the new technology and the organizational units responsible for the resources needed to commercialize the innovation. AlphaCo have, for example, on a structural and strategic level separated electrification and automation into separate business units because of their strategic importance which are rewarded earmarked resources. However, in practice how well the process of earmarking resources toward the development of new technology has some separating views. There are concerns that resources earmarked to certain explorative initiatives are allocated elsewhere and used for the traditional business. As AlphaCo have been a market leader for such a long time, and are experts at incremental and exploitative work, there are tendencies to regress back to exploitation. However, by initiating new ways of creating and encouraging explorative projects a company can shift the balance from being an exploitative leader toward a leader both in exploration and exploitation. Our study highlights that creating a culture comfortable working with exploration is crucial, but a stepwise process. Explorative work needs to come from creativity and by working methodically, logically integrating innovative efforts.

6. Conclusion

Climate change, digitalization and an increasing rate of technological advancement are radically changing multiple industries all around the world. In order to stay competitive, companies need to balance exploitation of their current products with exploration of new alternatives to achieve organizational ambidexterity (Benner, Tushman 2003). Yet, little is known about (1) the organizational initiatives when trying to become more explorative after long exploitative success and (2) the challenges an organization encounter during this kind of transition. Against this backdrop, we set out to research:

“What challenges do companies encounter with respect to investment processes when confronting pressures to become more radically innovative? How can companies address such challenges?”

In order to answer these questions, we performed a qualitative study at AlphaCo, an automotive manufacturer currently experiencing radical market changes. Although AlphaCo have implemented several initiatives in line with the recommendations of Tushman and O'Reilly (1996), they have not seen any significant results so far. If this is because the initiatives are fairly new and are being developed or because the initiatives are inefficient is still to be determined. Our study revealed that the major challenges in becoming more explorative were a lack of ownership in explorative projects, long lead times, and the presence of an extensive exploitative culture, all affecting the impact of exploration negatively.

Our study points toward the significance of ownership and selling of capital investments within companies. Ownership is crucial for the survival of an investment. All projects need a clear owner who will push the investment through obstacles and hardships. For exploitative projects the ownership is usually clear since it belongs to a specific division. However, for explorative projects the ownership is less clear as there might not be any business areas suited for them. It is therefore important to sell the explorative investment to an owner (Lumijärvi 1991, Tholin 2003). For exploitative projects the most important actors to sell the investment to are other divisions with the resources necessary to carry out the project. However, for explorative projects it is more important to sell the investment to top management. This is because explorative projects, in contrast to exploitative projects, need resilient owners, and because the top management can communicate the importance of exploration throughout the organization.

Our study also demonstrates the importance of a flexible and fast paced organization that with explorative innovation can change with the market to survive over long time. Since exploitative innovation mainly concerns itself with small, incremental improvements, the implementation of these improvements is usually not very urgent. However, an invention that is explorative today might be standard or even obsolete in just a couple of years. It is therefore of the utmost importance to design structures that allow for fast decision-making, development, and commercialization of new explorative projects.

Our study further highlights how culture directly shape investment decisions as companies focusing on exploitation tend to be risk-averse in order to protect their current market and customers. However, risk-averse cultures often reduce the degree of exploration since explorative projects are inherently more risky than exploitative ones. It is therefore crucial to separate explorative projects from the traditional business in order to lower the impact of a risk-averse culture. It is also important to create new measures that are better suited for explorative projects since many measures today are biased towards exploitation (Kaplan 1986, Christensen et al. 2010). Risk analysis is important in order to avoid bad investments. However, a risk-averse culture can also harm a company's explorative work and hinder them from making the necessary shift from exploitation toward organizational ambidexterity. This indicates that traditional organizations comfortable with exploitation must find new ways to cope with risk and exploration as the risk of exploitation is different in nature, to be able to become ambidextrous.

We perceive that future research can study the same phenomenon, but on other industries than the automotive industry, and do it as a longitudinal study to capture ambidextrous development and the effectiveness of initiatives over years. Because of time restrictions and restrictions to other resources we lost the opportunity to compare AlphaCo to other market incumbents. It could therefore also be useful to do a multiple case study to compare the situational complexities depending on the industry to receive further examples of how companies encounter market change.

7. References

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