BANG FOR THE BUCK

RESOURCE ALLOCATION FOR AMBIDEXTROUS INNOVATION

WILLIAM CARLHEIM-GYLLENSKIÖLD

OSCAR JOHANSSON

Master Thesis

Stockholm School of Economics

2019

Bang for the Buck : Resource Allocation for Ambidextrous Innovation

Abstract:

In this thesis we explore how accounting can shape ambidextrous innovation strategies, i.e. the simultaneous achievement of both short and long-term innovation. By studying explorative and exploitative innovation efforts, we take an ex-ante perspective on ambidextrous innovation. Drawing upon a single case study in a highly innovative company, we adapt Bower & Gilbert's (2005) resource allocation process (RAP) framework to study how accounting through a decentralised RAP affects innovation ambidexterity. We find that accounting sparks cognitive conflict, thus increasing inter-divisional alignment around innovation efforts. However, as it is difficult to assign numbers to explorative efforts, whereas the opposite is true for exploitative efforts, accounting calculations tend to favour exploitation. Further, we identify two additional sources of accounting-bias favouring allocation of resources towards exploitation. The first source relates to how corporate management allocates accountability. A dependency on resource commitments from exploitative organisational units is likely to create bias for exploitation in ambidextrous units. The second source concerns the short-termism of capital markets favouring exploitation due to the shorter-term, more predictable returns from exploitation compared to those of exploration. Additionally, our findings connect the accounting and ambidexterity literature with research that has studied ambidexterity through organisational structures.

Keywords:

Accounting and innovation, ambidexterity, exploration, exploitation, resource allocation process, cognitive conflict

Authors:

William Carlheim-Gyllenskiöld (23047)
Oscar Johansson (23618)

Tutor:

Torkel Strömsten, Associate Professor, Department of Accounting

Master Thesis
Master Program in Accounting, Valuation and Financial Management
Stockholm School of Economics

Acknowledgments
First and foremost, we would like to express our most sincere gratitude to our supervisor Torkel Strömsten, Associate Professor at the Accounting Department at the Stockholm School of Economics, for his excellent guidance. He has always made himself available to provide us with valuable advice and great support throughout this process. Additionally, we would like to thank Kai Krauss for initiating the contact with TechCo and for the insightful comments provided during the process of writing this thesis.

We would also like to express our appreciation to the employees at TechCo for taking the time to help and providing us with interesting insights. A special thanks to our contact person who helped us schedule interviews, suggested interviewees and not least participated in the study. We also want to thank Martin Carlsson-Wall, Associate Professor at the Accounting Department and Program Director for the Master Program in Accounting, Valuation and Financial Management at the Stockholm School of Economics, for inspiring lectures and great advice.

Stockholm, December 2019

William Carlheim-Gyllenskiöld Oscar Johansson

Contents

1. INTRODUCTION 4

2. THEORETICAL DEVELOPMENT 7

2.1. Accounting and Innovation Ambidexterity - A Review of Literature 7

2.1.1. The Relationship Between Accounting and Innovation 7
2.1.2. Accounting and Different Types of Innovation 8
2.1.3. Accounting and Innovation Ambidexterity 10
2.1.4. Identified Gaps in the Accounting and Innovation Literature 12

2.2. Method Theory 14

2.2.1. Bower's Original RAP-theory and Burgelman's (1983) Extension 14
2.2.2. Extensions to the Original RAP-theory - Bower & Gilbert's (2005) Framework 17

2.3. Theoretical Framework 18

3. RESEARCH METHODOLOGY 21

3.1. Research Design 21

3.2. Selection of Research Setting 22

3.3. Data Collection 23

3.3.1. Primary Data 23
3.3.2. Secondary Data 24

3.4. Data Analysis 25

3.5. Quality of Research 26

4. EMPIRICAL FINDINGS 28

4.1. Empirical Background 28

4.2. The Financial Planning Process in TechCo 30

4.3. Operating Level 32

4.4. Integrating Level 34

4.4.1. Translating Research Strategies 34
4.4.2. Brokering for Impetus 35

4.5. Corporate Level 39

4.5.1. Corporate Level Affecting RAP by Shaping the Structural Context 39
4.5.2. Corporate Management's Role in Committing Resources 41

5. DISCUSSION 43

5.1. Accounting Increases Horizontal Integration, but Favours Exploitation 43

5.1.1. Accounting as a Catalyst for Divisional Alignment 43
5.1.2. Accounting Favours Exploitation over Exploration 45

5.2. Allocation of Accountability Shapes Innovation Ambidexterity 46

5.3. Capital Markets' Focus on Financial Metrics Affects Innovation Ambidexterity through the RAP 48

6. CONCLUSIONS 50

7. REFERENCES 53

8. APPENDIX 1

1. Introduction

> *"It is not unusual that we receive large requests both in terms of long-term research and more short-term product development, and that we conclude that we cannot afford everything we would like to do. One could say that it is this prioritisation that we struggle with today."* - ***Head of Business Control, TechCo***

The above quote could probably have been uttered in almost any organisation in today's business world. Indeed, in a global economy characterised by constant change where new technologies disrupt industries in rapid pace, firms need to spend both time and resources to defend and exploit short-term competitive advantages, while ensuring that they remain competitive on the longer term. Scholars with an interest in innovation theory have coined the term innovation ambidexterity to denote the simultaneous achievement of both short and long-term innovation. Innovation ambidexterity is concerned with balancing incremental innovation, i.e. innovation closer to core business, taking a refining and shorter term perspective (Leifer et al., 2001; Andriopoulos & Lewis, 2009; Birkinshaw & Gibson, 2004), with radical innovation which takes a longer term perspective in yielding outcomes that alter existing markets or create new ones (Leifer et al., 2001; Tushman & O'Reilly, 1996; Smith & Tushman, 2005). The strategy of achieving the two, i.e. ambidextrous innovation strategies, poses significant challenges because of the fundamentally different competencies needed to achieve the different innovation outcomes (Birkinshaw & Gupta, 2013). Accordingly, the concepts exploration and exploitation (March, 1991) are used to denote the efforts simultaneously employed to achieve innovation ambidexterity. In fact, previous research suggests that an organisation's long-term performance is dependent on achieving innovation ambidexterity, and as such balancing the two efforts (Birkinshaw & Gibson, 2004; He & Wong, 2004; O'Reilly & Tushman, 2008; Smith & Tushman, 2005).

However, although it is widely accepted that a balance between the two modes of innovation is needed, the accounting literature on how innovation ambidexterity is achieved remains slim. The wider literature domain on accounting and innovation has moved from answering *if* accounting is beneficial for innovation overall, to rather focus on the role accounting plays in *different types* of innovation (e.g. Simons, 2010; Bedford et al., 2019; Bedford, 2015; Chiesa et al., 2009). Yet, we see that there is still room to develop on accounting's role in innovation, particularly for ambidexterity, because of both theoretical and empirical gaps in the accounting and innovation literature. For example, we see that the existing literature on

accounting and innovation ambidexterity has failed to draw upon the large body of literature on innovation ambidexterity in the adjacent management domain. For example, although the management literature theorises on how organisational structures affect ambidexterity, accounting research has historically omitted how innovation ambidexterity is shaped by managers' allocation of resources to said structures (Simons, 2010). In addition to this theoretical gap, the few studies that have looked at accounting and innovation ambidexterity has built upon a quantitative approach, thereby lacking contextual accounts of accounting's impact on ambidexterity.

These research gaps, coupled with the issues facing practitioners (as expressed in the introductory quote), yield an interesting question on the role accounting that has in shaping ambidextrous innovation strategies, in its capacity of allocating resources between the two modes of innovation. Given the identified empirical and theoretical gaps, we seek to explore how accounting, as a mechanism for allocating resources to the different types of innovation efforts, affects ambidextrous innovation strategies. Consequently, by asking the following research question - *What role does accounting play in shaping ambidextrous innovation strategies through resource allocation?* - we seek to provide new insights to the accounting and innovation ambidexterity domain, which could facilitate more informed resource allocation decisions and potentially build context to the million-dollar question: "Where do we get most bang for the buck?".

For the empirical inquiry, we adapt Bower & Gilbert's (2005) resource allocation process-framework that views strategy as an outcome of a series of resource commitments. Bower & Gilbert's (2005) framework is an extension of Bower's (1970) resource allocation process-model, comprising two core processes shaping resource allocation - *definition* and *impetus.* These processes are studied in particular by understanding the role of three levels of the organisation, namely the *operating*-, *integrating*- and *corporate* level. Additionally, the resource allocation process is seen to be affected by external and internal contextual factors, factors which also have reciprocal dependencies. In answering our research question, an in-depth single case study was conducted at TechCo, a listed global company in an industry characterised by a high degree of innovativeness. More specifically, the study's starting point is in TechCo's research division, ResDiv, which holds a two-fold mission of ensuring TechCo's long-term innovation success through its research, but also shorter-term benefits in terms of product development for other organisational divisions. Accordingly,

TechCo's and ResDiv's explicit ambidextrous innovation ambition makes it a fitting object for studying the role of accounting in shaping ambidexterity through resource allocation.

The study aims primarily to contribute to the accounting and innovation domain, more specifically to the growing body of accounting literature on innovation ambidexterity. This is done by addressing the following three gaps. Firstly, we aim to contribute to the theoretical gap of how ambidexterity is affected by resource allocation. Secondly, we see a potential to explore accounting's role in the allocation of resources to counteract or enforce the bias towards decision-making favouring exploitative innovation efforts. Thirdly, we aim to reduce the empirical gap in the accounting and innovation ambidexterity domain by providing contextual understanding on how accounting can create cognitive conflict[1]. We also make a secondary contribution to the literature concerning resource allocation processes.

The remainder of this thesis is structured as follows: Section 2 covers the theoretical background, including a review of the literature on ambidexterity in general, and accounting and innovation ambidexterity in particular. This is followed by a presentation of the chosen method theory and our theoretical framework. Section 3 details the methodology for our research, followed by section 4, covering the empirical findings in line with the theoretical framework. Section 5 is devoted to discussing the findings from the case study in relation to the reviewed literature from section 2. Section 6 then summarises the findings in the form of conclusions and suggest future avenues of research.

[1] *Cognitive conflict is* a concept previously identified by quantitative accounting research on ambidexterity.

2. Theoretical Development

In this section we outline the theoretical background for our study. Section 2.1 covers a review of the existing research on our domain literature. The literature review is then concluded in subsection 2.1.4 as we develop the identified gaps to which we aim to contribute with this study. Section 2.2 then presents our method theory, derived from the resource allocation process literature. Finally, section 2.3 outlines our theoretical framework that will be used to structure the empirical findings.

2.1. Accounting and Innovation Ambidexterity - A Review of Literature

The review of the literature on accounting and innovation starts with a review of the wider literature-domain on accounting and innovation, which can be found under subsection 2.1.1. Under section 2.1.2, we present the theoretical distinctions often employed when studying innovation, thus developing findings from adjacent management research. This provides context to the second to last section of the review, found under section 2.1.3. This section covers a body of research within the broader accounting and innovation domain labelled accounting and innovation ambidexterity.

2.1.1. The Relationship Between Accounting and Innovation

The literature on accounting and innovation covers the role that accounting plays for innovation, which has especially been elaborated upon by studying the role that management control systems (MCS) play in innovation processes. In particular, research in this field has largely centred around the question of whether accounting has an enabling or coercive effect on innovation. In the early days of research in this field, a common view was that accounting constrained product innovation (Abernethy & Brownell, 1997; Hopwood, 1972). However, the understanding of accounting's effect on innovation has developed and more recent research suggests a compatibility between product innovation and accounting, dependent on the design and use of accounting (Bisbe & Otley, 2004; Brown & Eisenhardt, 1997; Bisbe & Malagueño, 2009; Jørgenssen & Messner, 2009). For instance, Bisbe & Otley (2004), building on Simons' (1995) LOC-framework, found that an increasing use of interactive formal MCS by top managers leads to enhanced performance from product innovations.

More contemporary studies of accounting and innovation have been less concerned with whether accounting enables or constrains innovation, but rather focuses on the role accounting plays for various types of innovation.

2.1.2. Accounting and Different Types of Innovation

The primary distinction between different types of innovations in previous research has been radical and incremental innovation. This distinction takes an *ex-post* perspective by studying innovation outcomes, rather than exploring the factors that influence the outcomes (Revellino & Mouritsen, 2015). Therefore, researchers have also studied innovation building on an *ex-ante* perspective on what factors that give rise to radical or incremental innovation through the concepts of exploration and exploitation. For both the ex-ante and the ex-post perspective, the combination of the two contradictory factors has been labelled ambidexterity, building on the term's original meaning of an individual's ability to use the right and left hands equally well. In other words, a successful ambidextrous innovation strategy is characterised by ambidextrous innovation efforts, that yields ambidextrous innovation outcomes. For a conceptualisation of the relationship between the ex-post and ex-ante perspective on innovation, see Figure 1 below.

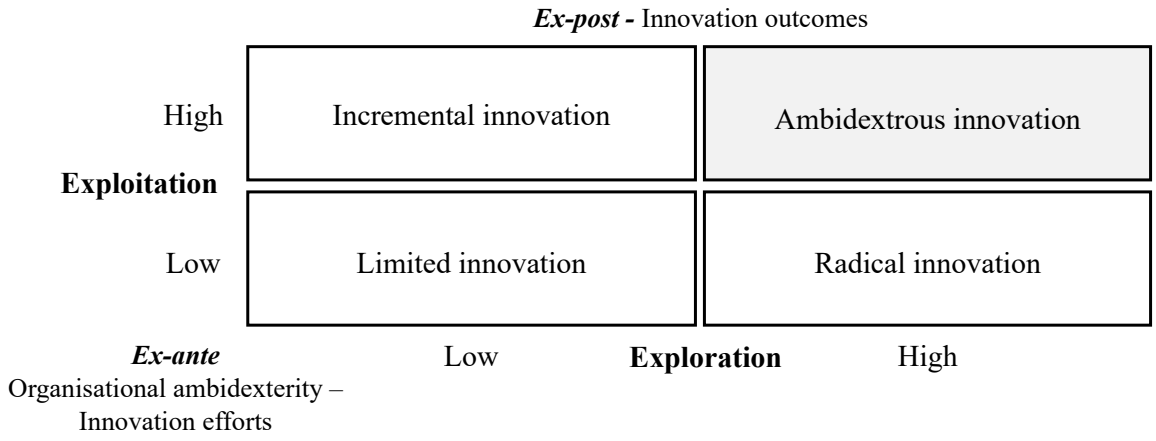

Figure 1. Illustration of the ex-ante and ex-post perspective on innovation. Adapted from Davila et al. (2005) (p. 14) and Bedford (2015).

2.1.2.1 The Ex-post Perspective on Innovation - Radical and Incremental

Studies building on the ex-post perspective have primarily sought to explore innovation processes characterised as either radical or incremental as well as the simultaneous achievement of the two (Revellino & Mouritsen, 2015, Chiesa et al., 2009; O'Connor & DeMartino, 2006), jointly labelled *innovation ambidexterity* (Bedford et al., 2019).

Radical innovation has been described as fundamental technological changes (Benner & Tushman, 2003), clear and risky departure from existing practices (Duchesneau et al., 1979) or breakthroughs (Leifer et al., 2001). Leifer et al. (2001) argue that radical innovation concerns products, processes or services with either unparalleled or similar features that offers significant improvements in performance or cost, thus altering existing markets or creating new ones. Examples of such products include smartphones, blockbuster drugs, or social media platforms[2]. In contrast, incremental innovations are characterised by continuity and refinements of existing technologies and products, following a linear and orderly process with less uncertainty (Leifer et al., 2001). Examples of incremental innovations include software updates, more fuel-efficient motors, and similar continuous improvements[2]. However, the body of accounting research that builds primarily on the ex-post perspective of innovation is rather slim. As Revellino & Mouritsen (2015) point out, accounting research has often limited itself to discussing the concepts of radical and incremental innovation rather than analysing them, which may be due to the difficulty of empirically separating the two (Damanpour, 1991). However, a conceptual distinction between different types of innovation does not in itself render any guidance on how to generate said innovation. Accordingly, researchers have sought to study innovation from an *ex-ante* perspective.

2.1.2.2 The Ex-ante Perspective on Innovation – Exploration and Exploitation

To understand how ambidextrous innovation is enabled ex-ante by an organisation's ability to balance its innovation efforts and objectives, a common distinction is built on March's (1991) concepts of *exploration* and *exploitation*.

Exploitation involves the "refinement and extension of existing competencies" (March, 1991). As it is close to core business, and as it takes an incremental and shorter-term perspective (March, 1991; Andriopoulos & Lewis, 2009; Birkinshaw & Gibson, 2004), it results in incremental innovation outcomes (Smith & Tushman, 2005). On the contrary, exploration entails "experimentation with new alternatives"; building on a longer-term perspective which results in radical innovations (March 1991; Tushman & O'Reilly, 1996; Smith & Tushman, 2005). Combining exploration and exploitation is challenging as the two are contradictory and suggest different organisational imperatives, such as allocation of time and resources (Andriopoulos & Lewis, 2009; Smith & Tushman, 2005; Birkinshaw & Gupta,

[2] Our examples

2013). Yet, previous studies suggest that an organisation's long-term performance is dependent on balancing the two efforts (Birkinshaw & Gibson, 2004; He & Wong, 2004; O'Reilly & Tushman, 2008; Smith & Tushman, 2005) and adapting to change over the longer term while maintaining performance on the short term (March, 1991, Brown & Eisenhardt, 1997; Duval, 2016). The joint pursuit of the two efforts has come to be labelled by academics as o*rganisational ambidexterity* (Birkinshaw & Gupta, 2013). Much of the existing literature on ambidexterity is based in the management field, seeking to understand how organisational ambidexterity can be achieved through organisational structures.

The research on ambidexterity have e.g. sought to find how organisational structures can enable ambidexterity by dividing explorative and exploitative efforts in an organisation (Birkinshaw & Gibson, 2004; Tushman and O'Reilly, 1996; Birkinshaw & Gupta, 2013). For example, Birkinshaw & Gibson (2004) distinguish between structural and contextual ambidexterity. Structural ambidexterity is concerned with spatial separation (distinct units focusing on either exploration or exploitation) whereas contextual ambidexterity concerns adaption (the same business unit is either exploitation- or exploration-oriented at any given time). The separation inherent in structural ambidexterity has been said to lead to isolation (Birkinshaw & Gibson, 2004), and as such, a condition for successful structural ambidextrous separation is an integration and transfer of knowledge between separate business units (McCarthy & Gordon, 2011; Farjoun, 2010). On the other hand, critics of contextual ambidexterity highlight the difficulty for business units to balance ambidextrous activities (McCarthy & Gordon, 2011). For instance, Birkinshaw & Gibson (2004) argue that successful contextual ambidexterity is contingent upon business unit managers' ability to allocate employees' time between the various activities in a timely manner.

2.1.3. Accounting and Innovation Ambidexterity

In his 1991 landmark paper, March argues that since the returns of exploitation are proximate and predictable, whereas the returns of exploration are distant and uncertain, there is a tendency to substitute exploration for exploitation. Although this tendency should increase the reliability of performance, such actions are also likely to diminish the overall performance in the long term. Building on this understanding, a growing body of research has seen that accounting can play a role in creating ambidextrous innovation. By combining the two conceptualisations of ex-ante and ex-post ambidexterity in the context of innovation, studies have sought to understand the role accounting plays in enabling innovation

ambidexterity (Simons, 2010; Bedford et al., 2019; Bedford, 2015; Ylinen & Gullkvist, 2014; Bisbe & Malagueño, 2009; Curtis & Sweeney, 2017). Yet, despite the growing interest from accounting academics, little research on accounting's role for innovation ambidexterity has been conducted overall (Gschwantner & Hiebl, 2016).

Bedford et al. (2019) specifically use the ex-ante ex-post relationship to study the role of performance measurement systems (PMS) in translating ambidextrous competencies (i.e. exploration and exploitation) to ambidextrous innovation outcomes (i.e. radical and incremental innovation). The authors find that corporate management's intention of balancing exploration and exploitation activities is associated with a choice of PMS that provides a balanced representation of resources, activities and efforts directed towards ambidextrous outcomes. Further, the authors hypothesise around the role of *cognitive conflict*[3] in innovation processes. Cognitive conflict occurs in corporate management teams as members argue in decision making processes about matters such as resource allocation, interpretation of facts and figures, and policy implementation. The authors find that the realisation of ambidextrous innovation outcomes is positively affected by cognitive conflict among senior management. This is driven by the realisation and confrontation of various viewpoints that arise specifically from cognitive conflict, which contributes to finding better ways to achieve ambidextrous innovation. This finding is adjacent to those of Ylinen & Gullkvist (2014) and Eisenhardt et al. (2009) who found that discussions improve the quality of strategic decision-making relating to radical innovation. The authors use these findings to claim that it is equally important to think of the design choices of accounting for decision-making purposes, as it is to think about the usage of accounting, as suggested by Bedford (2015).

The understanding of accounting design choices for decision-making purposes is interesting as existing literature on accounting and different types of innovation highlights that accounting measures often used for innovation (e.g. ROI, number of product launches or time-to-market) often favour incremental innovation. As the measurability of value from radical innovations is less tangible, captured in the longer term, and harder to quantify than for incremental innovation (Davila et al., 2005; Bedford et al., 2019), accounting is likely to downplay long-term innovation efforts in favour for exploitative and incremental innovation

[3] *Cognitive conflict* refers to discussions arising from the perception of disagreements about content and judgmental differences in viewpoints, ideas and opinions on how to realise a common objective.

(McCarthy & Gordon, 2011). This effectively crowds out radical innovation efforts, which results in an unbalanced innovation portfolio favouring short-term benefits over long-term (Davila et al., 2005).

Simons (2010) seeks to understand how exploration and exploitation can be enabled by management through their design of *spans of control* and *spans of accountabilit*y for subordinates. Simons (2010) defines span of control as the total resources under a manager's direct control, whereas span of accountability is defined as the measures a manager is held accountable for. Simons (2010) suggests that for the 102 organisations studied, the spans of accountability were wider than the spans of control, i.e. responsibility was greater than authority. Building on this finding, Simons develops and tests propositions that managers can shape exploration-seeking through increasing or decreasing this "entrepreneurial gap". The gap can be seen as a catalyst for finding new ways to reach the targets that one is held accountable for given a set of scarce resources, forcing the actor to find new strategies for success, in other words, increasing exploration. Additionally, Simons' (2010) findings suggests that a wide span of accountability given relatively scarce resources also forces managers to interact with other parts of the organisations that hold the resources needed to achieve the goals.

2.1.4. Identified Gaps in the Accounting and Innovation Literature

Previous research has found that, when designed and used in certain ways, accounting has a beneficial role in handling innovation (Bisbe & Otley, 2004; Brown & Eisenhardt, 1997; Bisbe & Malagueño, 2009; Jørgenssen & Messner, 2009). The literature review shows how the focal point in accounting and innovation studies has shifted from seeking to explore *if* accounting is beneficial for innovation overall, to instead focus on accounting's role in *different types* of innovation (e.g. Simons, 2010; Bedford et al., 2019; Bedford, 2015; Chiesa et al., 2009). However, there is still room to further problematise the role of accounting in innovation processes, particularly in understanding the role of accounting for shaping ambidextrous innovation strategies. This is motivated by both a theoretical and an empirical gap in the existing literature.

A large body of literature on ambidexterity in domains adjacent to accounting focuses on the role of organisational structures. Yet, as Simons (2010) claims, accounting research has historically omitted how the structure of an organisation and how managers allocate

resources to employees and units impacts the balance between exploration and exploitation. Combining the understanding of structural and contextual ambidexterity with Simons' (2010) view on the role of resources and accountability, an interesting question arises on how ambidexterity is impacted by the resources that are made available to explorative or exploitative business units. Therefore, we see a theoretical gap in the understanding of how ambidexterity is affected by accounting through resource allocation. Additionally, by understanding how accounting affects the resource allocation towards ambidextrous innovation efforts, we see a potential to bridge the understanding of the literature stream that look at ambidexterity through organisational structures, and the accounting and ambidexterity literature.

Moreover, achieving innovation ambidexterity has been suggested by many researchers to be complex because of the difficulty of making trade-offs between short and long-term objectives and allocating resources between these conflicting demands (Bedford et al., 2019; Birkinshaw & Gupta, 2013). Similarly, existing literature on accounting and different types of innovation suggests that accounting is likely to downplay longer term innovation efforts compared to behaviours promoting exploitation and incremental innovation (March, 1991; McCarthy & Gordon, 2011; Davila et al., 2005; Bedford et al., 2019). Therefore, we find it interesting to explore accounting's role in the allocation of resources to counteract or enforce the bias towards decision-making favouring exploitative innovation efforts.

Innovation ambidexterity is a widely researched concept in the adjacent management domain. Yet, as the existing literature is based in the management field, it does not provide constructive evidence on the role of accounting. Accordingly, an empirical gap exists as the accounting domains' understanding of accounting's role in creating ambidextrous innovation is less explored (Gschwantner & Hiebl, 2016; Bedford et al. 2019; Simons, 2010). This yields an opportunity for us to add knowledge to a less explored but growing field of literature. For example, Bedford et al. (2019) is helpful in explaining that a balanced use of accounting can enable ambidextrous outcomes, specifically by creating cognitive conflict. In aiming to close the empirical gap, we aim to expand the literature by providing contextual understanding of how accounting creates cognitive conflict in practice and the related effects on ambidextrous innovation strategies, which has not been captured by previous researchers using a quantitative method.

Given the identified gaps in the accounting and innovation literature, we aim to continue where the contemporary research on accounting and innovation left off. Consequently, we build on the findings of previous literature such as Bedford et al. (2019) and Simons (2010) in seeking to understand how accounting and resource allocation affects ambidexterity. That is, it is interesting to see how accounting can be used to allocate resources to the different types of innovation efforts, thereby enabling ambidextrous innovation strategies. Next is a question of finding a theoretical lens suited to study these gaps. As we are interested in how ambidextrous strategies are enabled through resource allocation, we hope to contribute with additional knowledge to the accounting and innovation domain by analysing our empirical data using *resource allocation processes*-theory.

2.2. Method Theory

Building on Lukka & Vinnari (2014), we seek to employ a suitable theoretical lens in the form of a method theory, that can guide the empirical inquiry in contributing knowledge to the identified gaps in the accounting and ambidexterity domain. Viewing the achievement of an ambidextrous innovation strategy as an outcome of the balance between ambidextrous innovation efforts, we find the *resource allocation processes* (RAP)-theory, originally proposed by Bower (1970), to be a suitable method theory.

The RAP-theory builds on the idea that strategy is shaped by a series of resource commitments, which drives strategic outcomes. The theory has since its inception been developed by several researchers both in terms of its applicability, as well as through the addition of their findings. Building on the works of Bower (1970) and subsequent researchers, we develop a framework based on the framework developed by Bower & Gilbert (2005). Their frameworks view the RAP as an outcome of two core processes. In our framework, the first considers how strategic options are developed and the second how a choice between these options is made, to see how accounting can be used to allocate resources to ambidextrous innovation efforts.

2.2.1. Bower's Original RAP-theory and Burgelman's (1983) Extension

The understanding of Bower's (1970) RAP-theory builds upon resource allocation as a complex, multilevel phenomenon that fundamentally shapes firm-strategy (Bower & Gilbert, 2005). The theory was developed by Bower (1970) as the answer to a set of questions that could be asked when studying a firm's financial committee in the review of proposed

investments. Examples of questions are how projects are defined, who decides what receives funding or not, and the basis for such decisions. By detailing how the RAP could be seen as a function of a few processes and the actors influencing them, Bower (1970) developed a theory which is helpful to answer these types of questions and to understand how allocation of resources shapes strategy. Bower's (1970) initial theory describes resource allocation as an outcome of two core processes and one process affecting them (*definition*, *impetus*, and *structural context*), which are shaped by three organisational levels; an *operating* level, an *integrating* level and a *corporate* level.

The first core process, *definition*, is the process that determines the basic economic and technical specifications of a proposed investment. The second process, *impetus,* is what enables an investment idea to ultimately be presented before a finance committee, i.e. "the force that moves a project towards funding". Bower's (1970) third process, *structural context*, is concerned with the forces that shape the two core processes, thus detailing how "structure shapes strategy".

2.2.1.1 The Three Organisational Levels and Their Impact on the Two Core Processes

Bower (1970) suggests that the definition for new projects primarily comes from the *operating level* of an organisation. The operating level consists of specialists with a functionalistic focus. Based on their specialised knowledge, these persons identify strategic discrepancies between a current and a future state, e.g. that a company needs to invest in a new factory to meet next years' demand. Based on this discrepancy, the operating level can define a portfolio of strategic opportunities, making the operating level the primary determinant of definition. After having defined one or a set of ideas, the next step is to present them for a middle manager at the integrating level. In trying to gain impetus, the specialists at the operating level take on a championing role as they propagate for their ideas.

The *integrating* level, or as Bower (1970) also defines it - the "*general managers in the middle*" act as a mediator between the product-oriented operating level and the more financially focused corporate level. Based on their role as mediators, they work to translate the specialists' technical perspective and the holistic financial viewpoint from the corporate level into one common language. Hence, they do not shape definition to the same extent as the operating level. Instead, the integrating level is the primary determinant for the impetus process. Bower (1970) views impetus as originating from the willingness of a middle

manager to champion the proposed investment idea in the organisation. In determining what projects that should be presented for decision-makers, there is a process of brokering between different options, leaving the integrating level preoccupied with probing assumptions and projections of the projects at hand.

The *corporate* level is likely to take on a top-down, aggregate perspective on definition. This perspective is shaped by the corporate level's knowledge, which entails more sources of information with differing viewpoints, but with less detail. Thus, its prime task is to align the various sources of definition within a company towards an overall corporate mission. The role of the corporate level in the impetus process is to commit resources for the proposed investments. They tend to provide impetus for proposals coming from trusted organisational members with a proven track-record of delivering beyond expectations. This is especially prevalent in high-technology companies where corporate management has little opportunities to make independent assessments of the validity of the bases for the proposals.

<table>
<tr><th>Process
Phase</th><th colspan="2">Definition</th><th colspan="2">Impetus</th><th colspan="2">Determination of context</th></tr>
<tr><td>Corporate</td><td colspan="2">Aggregate, Financial
Company-Environment</td><td colspan="2">Yes or No</td><td colspan="2">Design of
Corporate Context</td></tr>
<tr><td>Integrating</td><td>Financial,
Aggregate
↓</td><td>↑
Product
Market
Strategic</td><td>The
company
"wants"
↓</td><td>↑
The
businesses
"wants"</td><td>Corporate
Needs
↓</td><td>↑
Subunit
needs</td></tr>
<tr><td>Initiating</td><td colspan="2">Strategic Product-Market</td><td colspan="2">I have got a "great" idea</td><td colspan="2">Product / Market not served
by structure</td></tr>
</table>

Figure 2. Illustration of the RAP, from Bower (1970).

2.2.1.2 Contextual Factors Affecting the Core Processes

In addition to the two core processes, Bower identified a third process called *structural context*. It is defined as the forces shaping the two core processes (definition and impetus). Structural context refers to organisational and administrative mechanisms that corporate management defines in order to guide the current corporate strategy (Burgelman, 1983b). Although Bower originally defined structural context as a process, the thinking of structural context has developed with other researcher's additions of factors affecting definition and impetus, to be seen as one of several factors shaping the two core processes. The first addition to the theory was by Burgelman (1983b) who introduced *strategic context*. Strategic

context concerns how the core processes are affected by strategic initiatives that evolve in an organisation, which ultimately lead to the refinement and alteration of the concept of corporate strategy (Burgelman, 1983b). Structural context, as defined by Bower's (1970), builds on the notion that "structure shapes strategy". It does so by determining the resource commitment that turn out to be the company's strategy ex-post. Yet, what strategic context suggests, as definition and impetus are primarily a bottom-up process, is that strategy is also emerging and helps shape structure. This allows strategy-making to be seen as a both top-down and bottom-up multi-layered process (Burgelman, 1983a), i.e. "strategy shapes structure".

2.2.2. Extensions to the Original RAP-theory - Bower & Gilbert's (2005) Framework

Although Bower's (1970) original theory centres around resource allocation for specific capital investment projects, subsequent research has established a wider scope of usefulness and generalisability of the theory, in conceptualising strategic decision-making in other settings (Bower & Gilbert, 2005). This has been drawn upon by scholars studying strategy who have developed the theory by finding anomalies that the original theory could not explain (Christensen & Bower, 1996; Noda & Bower, 1996; Sull, 1999; Eisenmann & Bower, 2000), such as the aforementioned addition of strategic context by Burgelman (1983b). Hence, building on the findings of Bower (1970) and Burgelman (1983b), RAP-theory has been further developed by subsequent researchers introducing and confirming exogenous variables and the generality of the theory.

Bower & Gilbert summarised some of the extensions to the theory in their 2005 publication, including a framework which encompasses Bower's (1970) original theory and some of the additions from subsequent researchers in the form of contextual factors affecting the processes (Bower & Gilbert, 2005). In addition to the aforementioned structural and strategic context, additions to the framework includes *capital market context* and *product market context*. Capital market context is the notion that capital markets influence RAP, thereby shaping strategy, building on the findings of Noda & Bower (1996), Sull (1999) and Eisenmann & Bower (2000). In detail, investors and lenders can influence the RAP either directly (e.g. through covenants) or indirectly (through the instalment of financially oriented executives), thereby shaping what resources are allocated to (Bower & Gilbert, 2005). Product market context, in turn, builds on the findings of Christensen & Bower (1996) who

found that companies that invest in areas where they currently see their largest profits causes suboptimal performance over the longer term. This is due to the inability of the RAP to balance the demands of current customers and products compared to emerging customer and product segments. That is, the product market context is specifically concerned with how the current customers and products affect the RAP.

The essence of the RAP-theory is that it views strategy as an outcome of a series of resource commitments, which in turn are a result of organisational processes. That is, resource allocations drive strategic outcomes (Bower & Gilbert, 2005). Activities that shape resource allocation proceed simultaneously across multiple levels of the organisation. Even though organisational members hold very different perspectives and knowledge, they are all contributing to a common decision-making process, and as resource allocation drives strategic outcomes, the organisational members have an effect on the realised strategy.

2.3. Theoretical Framework

In this section, we develop the theoretical framework that will be used in structuring the empirical findings. The framework builds on Bower & Gilbert's (2005) framework, which in essence is the model originally suggest by Bower (1970), but which incorporates the contextual additions by subsequent researchers introduced in the preceding section. The framework will guide the analysis which seeks to extend the knowledge of accounting's role in allocating resources to ambidextrous innovation strategies.

The literature review highlighted a gap in the research on accounting and innovation ambidexterity, pointing to a lack in the understanding of how accounting shapes ambidextrous innovation strategies. Given this gap, and our view on innovation ambidexterity as a strategic outcome of balancing different innovation efforts innovations, we study how realised ambidextrous innovation strategies are determined. We find Bower & Gilbert's (2005) extended resource allocation framework, which takes the aforementioned contextual factors into consideration, suitable for this purpose. The basic proposal of Bower (1970) and scholars that have developed the framework is the understanding of realised strategies as an outcome of a series of resource commitments. Worth noting is that the validity of the theory for explaining how ambidextrous innovation strategies are shaped by accounting through resource allocation hinges on the reader's agreement with this basic proposal of what shapes strategic outcomes.

When using the theoretical framework to guide the empirical inquiry, we see on beforehand a need to adapt the framework to a higher organisational perspective better fitting to our domain literature on accounting and ambidexterity. Whereas Bower (1970) used the theory to study the RAP on a project level, we take a broader approach and study the RAP at an organisational level instead. Thus, in the light of our case company TechCo being a decentralised organisation with separate units defining their own strategies and resource needs, we find it suitable to talk about the specific business units as the operating level. In this setting, our empirics centres around a specific division with a two-fold mission of conducting longer term research and shorter-term product development. As the operating level is thus seen as an operating business unit, the integrating level also plays a different role. Firstly, looking at a large organisation like the case company, it is not uncommon for the heads of the operating units to also be represented in the corporate management team. Thereby, the integrating level takes a wider role as being part of both the operating level as well as the corporate level. Secondly, through this role in a decentralised organisation, they need to create an alignment with other business units in the RAP. Thus, the roles of the operating and the integrating levels are adapted following our particular perspective, although without changing the underlying principles of the theory.

Figure 3 presents our theoretical framework. We specifically seek to understand the two key processes in the RAP, *impetus* and *definition*. In our study, definition is actualised by the need to define an optimal balance between explorative and exploitative innovation efforts to achieve short-term financial goals while simultaneously ensuring long-term competitiveness. Impetus involves the process of selecting and funding either short-term product development, or long-term explorative innovation efforts. These processes are studied in particular by understanding the role of different actors on different levels of the organisation, namely the operating-, integrating- and corporate level. The RAP is in turn affected by external and internal factors, these are structural and strategic context, capital market context and product market context. These factors also have reciprocal dependencies. The RAP determines strategy, and thus, in our case, how an organisation balances the two types of innovation efforts to yield an ambidextrous innovation strategy. Through the proposed framework, we use RAP-theory to guide the empirical inquiry, where we specifically look at accounting's role in allocating resources. This helps us answer our research question: *What role does accounting play in shaping ambidextrous innovation strategies through resource allocation?*

In sum, our intention is to investigate accounting's role in the resource allocation between explorative and exploitative innovation strategies, by studying the RAP and how accounting is used by organisational members in it. We see that RAP-theory can help bridge the empirical and theoretical gaps that were identified in the literature review, thus adding knowledge on accounting's role in innovation ambidexterity. We adapt the extended RAP-framework by Bower & Gilbert (2005) for the specific setting of studying the resource allocation for ambidextrous innovation strategies at a higher organisational level in a large, complex, multinational organisation. Accordingly, the framework builds on the core concepts of the RAP-theory that explores how resource allocation shapes strategy. We aim to use this framework to contribute with knowledge to the literature domain on ambidextrous innovation. Additionally, we see a potential to make secondary contributions to the RAP-literature by adopting a framework that allows for a study between interdependent organisational divisions and by explicitly exploring the role of accounting in the RAP.

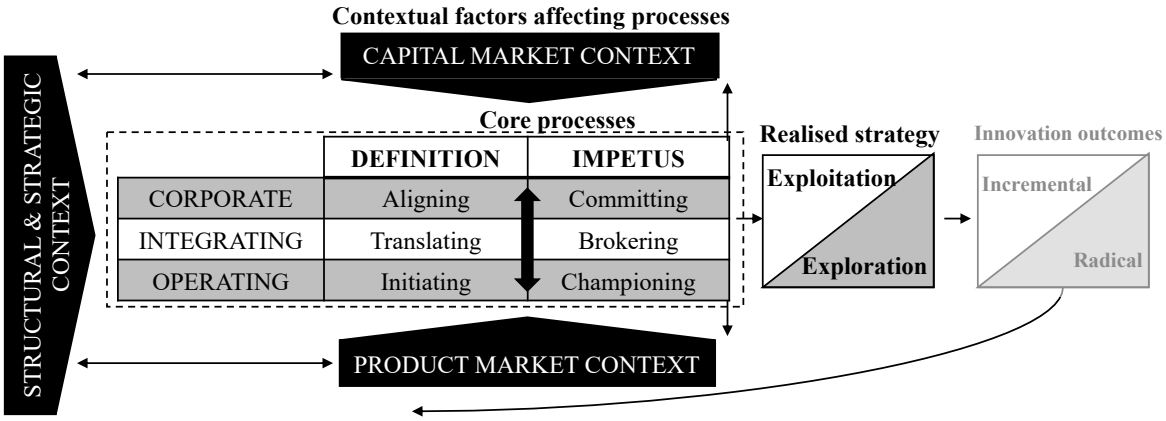

Figure 3. Our theoretical framework: A resource allocation process for different innovation efforts, yielding ambidextrous innovation outcomes. Adaption of "*A revised resource allocation model*" (Bower & Gilbert, 2005, chapter 20)

3. Research Methodology

In this section, the choice of research methodology is described. The research design is presented and motivated in section 3.1. Section 3.2 is devoted to discussing the suitability of the case organisation. Subsequently, section 3.3 and 3.4 outline the procedure of data collection and data analysis respectively. Lastly, in 3.5 we discuss the quality of research.

3.1. Research Design

The role of accounting in creating ambidextrous innovation is an under-researched area (Gschwantner & Hiebl, 2016; Bedford et al. 2019; Simons, 2010). The few studies made on the topic have mostly been multiple case studies (Simons, 2010; Chiesa et al., 2009) or survey studies (Bedford et al., 2019; Bedford, 2015). Although these research methodologies are fully capable of yielding interesting insights as well as raise important issues and questions, they are more focused on surface data rather than studying the deeper social dynamics which a single case study facilitates (Dyer & Wilkins, 1991). Moreover, Dyer & Wilkins (1991) argue that the careful study of a single case allows researchers to "see new theoretical relationships and question old ones" (p.614). Additionally, they claim that the classic single case study is powerful in the sense that it describes general phenomena so exhaustively so that others easily can see the same phenomena in their own context (Dyer & Wilkins, 1991). Apart from the theoretical appropriateness, the storytelling and focus on providing deep context in a single case study are often more persuasive and easier to remember than statistical demonstrations of ideas and claims (Dyer & Wilkins, 1991). Based on this methodological understanding, an in-depth single study was considered suitable for capturing the complex dynamics and intricacies inherent in ambidextrous organisations. As previous scholars have identified, the RAP is highly affected by contextual factors for the specific company and market studied, adding to the usefulness of a method that can work to capture these deep contexts. Accordingly, we find a single case study to be an appropriate way of answering our research question, given our aim of studying the RAP and how accounting is used by organisational members in it.

3.2. Selection of Research Setting

Since we set out to explore accounting's role in relation to innovation the first criterion in the selection process of a potential case company was that innovation should be of central interest for the company and its operations. Secondly, since the study particularly aims to shed light on how organisations deal with ambidextrous innovation efforts, the case company also had to have an ambidextrous innovation ambition, i.e. that the exploration-exploitation tension was evident. Thirdly, the company had to be of significant size and age to ensure that processes are in place and that clearly defined hierarchical levels exist. Next, the headquarter should be located in the Nordics and preferably in Stockholm, Sweden, to allow us to conduct most interviews in person and visit the research site as this enhances context building. Lastly, and most importantly, the company had to be prepared to first grant us access and then provide access to sufficient data sources such as relevant interviewees.

The case company in this thesis, henceforth labelled *TechCo*, fulfilled all these criteria and was therefore considered suitable for our study. TechCo is a multinational company (MNC) and one of the largest players in its industry in the high technology sector and have market presence and offices globally. That TechCo is a MNC is advantageous as these types of organisations make good study objects as they provide a multifaceted and complex context and as such are suitable for theory development (Roth & Kostova, 2003). Further, TechCo was perceived to be a suitable object for studying the RAP for ambidextrous innovation efforts as the organisation entails different stakeholders with presumably differing opinions, as well as an array of contextual factors that come with size, market presence, listing on stock exchanges etc. Additionally, TechCo has previously invited thesis writers to study their organisation and therefore had an understanding of the task at hand.

More specifically, at the centre of our study is TechCo's research division, *ResDiv*. ResDiv is seen as a suitable focal point when studying the resource allocation for innovation ambidexterity as they function as TechCo's explorative branch, conducting long-term research. Yet, they have a simultaneous responsibility to support the rest of TechCo with shorter term product development. As such, there is an interesting perspective to study both the resource allocation to ResDiv overall, but also the effect on ResDiv's internal prioritisation between its two-folded mission. Further information about TechCo and ResDiv can be found under Section 4.1.

3.3. Data Collection

The data collection period lasted from late September to late November 2019. The data collection has primarily consisted of interviews with people at different levels and areas within TechCo, most importantly at TechCo's technology department, TechDep, and its research division, ResDiv. Innovation ambidexterity and the question of finding a way to balance explorative and exploitative innovation efforts had been a widely discussed topic within TechDep before and around the time we approached the company with a request to perform our study with them. A contact person at TechDep granted us access to different people within the division and helped set up contacts with other divisions of the company. In addition to the interview data, other data sources such as internal documents and annual reports were used in helping us gain a wide understanding of TechCo and the question at hand.

3.3.1. Primary Data

To understand the role of accounting in the RAP for ambidextrous innovation, a key source of information has been interviews with employees involved with these issues who could share opinions and experiences (Patton, 2002). All the interviews were informed about the scope of our study at an early stage of the interview and in some cases also through the contact person at TechCo who helped set up the meetings. All participants in our study were guaranteed anonymity. Further, we signed a non-disclosure agreement which we informed the interviewees about prior to our conversation. The purpose was to protect their integrity and ensure a relaxed environment to hopefully allow people to speak without having to filter their expositions.

We have conducted semi-structured interviews as it allowed us to have some flexibility to follow-up on new topics and ideas as they were raised during interviews. This is beneficial as it allows the researcher to explore emerging lines of enquiry (Ryan et al., 2002, p.154). Over the course of the three months the data collection took place, a total of 18 interviews with 15 individuals at TechCo were held. All interviews except for three were held face-to-face at TechCo's headquarters. The other three interviews were held over telephone due to long geographical distances in two cases and in one case because the interviewee had limited availability to schedule a meeting in advance. Both authors were present at each interview and actively engaged with the interviewee to add as many perspectives as possible and to

ensure a consistent view of the empirical findings. On average, the interviews lasted for 50 minutes. A summary of the interviews can be found in the Appendix A.

The first three interviews involved detailed accounts on background information to ensure that we fully understood the people and processes involved in the RAP in TechCo. As the interviewees in these introductory interviews had prepared PowerPoint presentations, we took a more passive role and asked clarifying questions and if the interviewee could elaborate on interesting areas. After we had got a grasp of the processes and the relevant people involved, we started scheduling interviews. The individuals targeted were identified together with our contact person, and the choice was based on their level of insight in TechCo's yearly financial planning process. An interview guide built on our theoretical framework was developed in conjunction with the initial interviews and was adjusted continuously to fit the unique experiences of each interviewee and their role in the organisation (Dubois & Gadde, 2002). After each interview, new questions arose which worked to complement the initial interview guide for the later interviews. The semi-structured interview guide ensured that certain areas and questions were covered, but still allowed us the flexibility to ask additional questions not found in the guide as new interesting topics emerged.

3.3.2. Secondary Data

Although the most essential source of data was the findings from the interviews, other data was gathered to complement the empirical inquiry. This includes material from TechCo's website, the company's annual reports, news coverage, and internal documents. The internal documents were shared either as part of the interviews or distributed to us separately afterwards. This material encompassed documents such as (but not limited to): documents related to TechCo's Research Strategy and its development, documents related to the corporate financial planning process, and documents related to TechCo's long-term strategies and financial targets. These documents were helpful in complementing what was said in the interviews. Furthermore, external material such as news coverage and TechCo's annual reports has helped building the context for the case study, especially with regards to TechCo's financial situation.

During the data collection period, we spent considerable time at TechCo's headquarters. This enabled us to observe different factors outside the interviews, such as physical artefacts, TechCo's culture and their ways of working, which has been helpful in gaining a contextual

understanding of TechCo. This has been helpful in sorting and analysing the empirics. For example, we gained an understanding of the prominent position that ResDiv held within the company and the strong technological orientation of the company through observations of their headquarters. For instance, we visited a showroom showing physical artefacts of historical technological advancements.

3.4. Data Analysis

Immediately after the interviews, the impressions gathered under the interviews were discussed to continuously develop the interview guide and to build initial hypotheses around themes in the empirics that could later be investigated in detail. The majority of the interviews were tape-recorded and transcribed in close connection to each finished interview. Most of the interviews were transcribed by us, as it enhances knowledge and facilitates the realisation of interesting topics that were not evident or followed-up on during the interview. However, the transcription of a couple of interviews that were considered less central to answer our research question was outsourced to a third party. Further, a few participants preferred not to be recorded and, in those cases, thorough notes were taken instead.

Thereafter, the collected data was manually coded following our theoretical framework. Coding facilitates more organised analysis as it can be used in establishing a connection between theory and data (Bansal & Corely, 2011). Transcripts were organised and analysed according to themes to establish patterns and highlight contradictions. The themes we analysed were: 1) episodes of definition (process), 2) episodes of impetus (process), 3) episodes of contextual factors affecting (1) and (2), 3) tensions between exploration and exploitation, 4) strategic innovation outcomes (ambidexterity), and 5) use of accounting calculations.

In the process of collecting and analysing data, as well as in matching them with our theoretical framework, an abductive approach has been employed (Dubois & Gadde, 2002; Lukka & Modell, 2010). We started by structuring the empirics according to the processes within our theoretical framework. However, as we increased our data bank and gained a better understanding of how the RAP took form in TechCo, we restructured the empirics after the organisational levels (operating, integrating and corporate) to better capture the processes and intricacies. When we started writing we had an idea to follow a linear process,

i.e. start with the empirics followed by a discussion and finally write conclusions. Nevertheless, after having struggled with the process of selecting which parts of the empirical findings that were essential and what findings that were less relevant to present, we decided to alter our strategy and instead think of what the main findings of our study were. Writing down our findings facilitated the process of sorting out what empirics that should be complemented, and what data that did not contribute which thus should be excluded.

Finally, it should be noted that 17 out of 18 interviews were held in the participants native tongue, Swedish. Although beneficial in the sense that no important data risk to be excluded by the interviewee due to language barriers (Messner et al., 2017), it implies a challenge in translating quotes to English while not changing the meaning. To address this issue, the translated quotes were sent to each interviewee for approval before publication. A couple of the interviewees wanted to change some wordings, however without altering the essence of the original quotes.

3.5. Quality of Research

Many scholars dedicated to qualitative research have questioned the usefulness of quality criteria as validity, reliability and objectivity which are common in quantitative research (see e.g. Ahrens & Chapman, 2006; Lukka & Modell, 2010). They argue that the transferability of these criteria to qualitative research is limited due to the differences in methodological assumptions. Instead, qualitatively oriented scholars have introduced the alternative quality criteria of *credibility* and *authenticity* which are better adapted to qualitative studies (Messner et al., 2017).

Credibility concerns the degree to which a qualitative study is convincing in terms of the proposed findings (Messner et al., 2017). The outcome is dependent on both the strength of empirical data as well as the plausibility of the researchers' theoretical interpretation. Messner et al. (2017) highlight that a challenge associated with qualitative studies is the risk that the researcher, in the process of selecting relevant data, builds up a bias in what is deemed relevant or not. This can also result in researchers failing to dig deep enough to understand the complexity of the empirical setting, which can distort credibility (Messner et al., 2017). For us, the empirical selection has entailed a balancing act between thoroughly detailing the intricacies of a RAP in a global, high-technology firm and keeping it on an

understandable level for an external reader. Hence, in the decision to leave out certain details we have run the risk of oversimplifying matters. However, to ensure that no essential data has been dismissed or any misinterpretations made, we asked our point of contact at TechCo to look for errors and if any key information was missing while, per request, reading the empirics with the purpose to approve the anonymisation prior to publication.

Authenticity refers to a study's ability to convey the richness of the empirical material. Messner et al. (2017) argue that authenticity is important for two reasons. Firstly, an authentic depiction can support the credibility of the findings. For instance, scholars have pointed to the importance of conveying a feeling of "having been in the field" (e.g. Lukka & Modell, 2010, Messner et al., 2017). Secondly, an authentic writing is important to communicate the complexity and to provide enough details for the reader to understand the complexities. We have aimed to follow these guidelines by building the empirical findings around direct quotes from interviewees.

4. Empirical Findings

This section is devoted to the empirical findings, presented in line with the theoretical framework. In section 4.1 the empirical background is introduced. Section 4.2 presents TechCo's yearly financial planning process, which is the setting in which we study the resource allocation process (RAP). The following sections identify the roles that different organisational levels in TechCo play in the RAP. Thus, section 4.3 is devoted to the operating level, section 4.4 to the integrating level, and section 4.5 to the corporate level.

4.1. Empirical Background

TechCo is a listed global company operating in a high-technology industry characterised by intensive competition among a few large, global players. Constant innovativeness is key to create competitive advantages. Consequently, TechCo invests heavily in R&D to remain at the technology forefront. A few years back, the company struggled with its profitability and a weak share price development. In an attempt to shift the pendulum, the company decided to change corporate management team. When the new CEO was appointed, it was clear that TechCo was going to address the profitability issue, something that was highlighted in the annual report released around the time of the CEO succession:

> *" The first task is to establish profitability and adjust the size of our operations to the demand level." –* ***Acceding CEO (TechCo annual report)***

Following the CEO succession, the company initiated a major reorganisation program which aimed to simplify the organisational structure and enable the execution of the new strategy. TechCo is organised in a matrix structure, consisting of *product areas* and several *regional areas* (see Figure 4). The regional areas are responsible for sales and delivery to customers, whereas the product areas are responsible for product portfolio management. This means that they develop and manufacture products as well as engage in exploitative research and development. In the external communication, a product area in combination with the regional areas are presented as a business unit. However, as the regional areas are much less concerned with product development or research than the product areas, the term product area will henceforth be used to denote what is labelled as business units in the external

communication. The product areas are supported by group functions[4] which have no profit and loss responsibility.

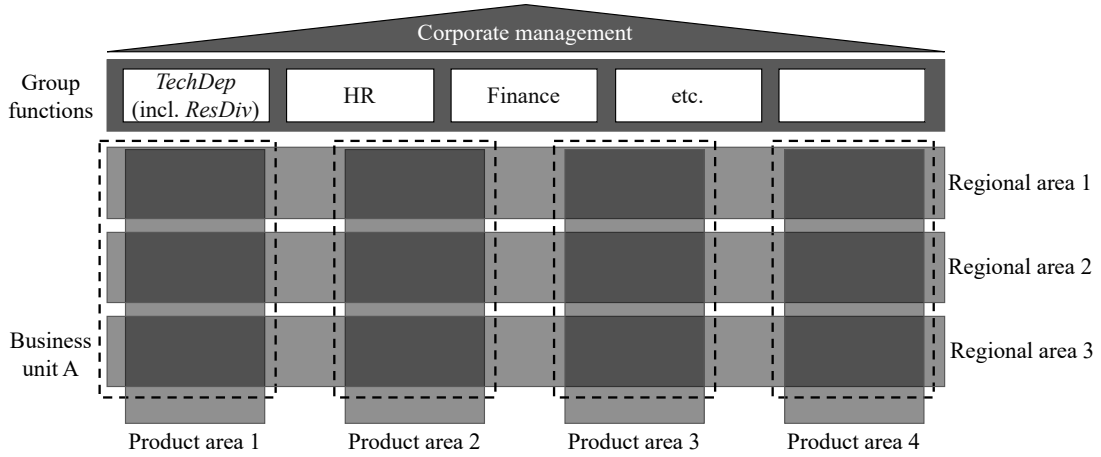

Figure 4. TechCo's organisational structure (illustrative).

One of the group functions, *TechDep*, is concerned with technology and is headed by the CTO. A subdivision of TechDep is the research division, *ResDiv*. ResDiv can be seen as TechCo's primary branch for explorative innovation efforts through their research, although their mission is two-folded. On the one hand, ResDiv conducts explorative long-term research to ensure future competitiveness through innovation. On the other hand, the division should also support product areas in their exploitative short-term product development, e.g. through allocating members from ResDiv to work as consultants. This organisational set-up was relatively new, as the research function previously was divided over the different product areas, and as such also directly funded by them. The problem with the old way of working was that as research was directly funded by the product area, there was a tendency for the research activities to be more short-term focused.

In tandem with the presentation of the new profitability focused strategy, the corporate management team introduced a new way of working to set strategies and yearly budgets. This process was called "*the financial planning process*" and had at the time of our study been up and running for a period of time. The process is decentralised as each division come up with their own strategy and budget, guided by overarching financial targets. In the case that the aggregation of budgets exceeds the total available resources, the units prioritise and negotiate among each other before presenting a revised proposal. At last, the CEO and CFO

[4] We use the term *divisions* as an umbrella term when speaking either of product areas, regional areas or group functions.

decide on the final budget. However, prior to our study commenced the CTO had voiced a concern of the difficulty in arguing for the value of ResDiv's explorative research. Therefore, he had initiated a process to develop a ROI-measure that could capture the value created by ResDiv.

4.2. The Financial Planning Process in TechCo

Historically, TechCo's divisions would create their budgets without much discussion with other parts of the company and the final budget would be set according to the corporate management's opinions. This silo-like process was not desirable, and the new corporate management sought to integrate all parts of the company by promoting inter-divisional interaction. In light of this, the yearly financial planning process was introduced. The first half of the process is devoted to formulating assumptions and strategies verbally and in text, at a division level. Thereafter, during the second part of the process, assumptions are translated into numbers for the year to come, for each of the different divisions. In contrast to the product and regional areas, the group functions do not own a top-line but only estimate their costs, which are then allocated to the product areas. This process was explained by a senior business controller:

> *"The two deliverables are the strategy, where you describe something in words, and the finance plan, which is a P&L and a balance sheet. One soft deliverable and one which is very hard and explicit."* ***- Senior Business Controller, TechDep***

When each division have compiled their deliverables, they are aggregated into one financial plan for TechCo which is reviewed by the finance function and the CFO to see if the result is compatible with the available resources, financial targets and group strategy. However, this is rarely the case:

> *"It is not unusual that we receive large requests both in terms of long-term research and more short-term product development, and that we conclude that we cannot afford everything we would like to do. One could say that it is this prioritisation that we struggle with today."* ***- Head of Business Control, TechCo***

Consequently, as the aggregated budgets exceed what the corporate management finds viable given the externally communicated financial targets, the financial plans are sent back to the units for another round of "*number crunching*". In contrast to how TechCo previously used to work when setting the budget, there is now an iterative discussion between the

different divisions on what to prioritise. The process was described by some of the interviewees as a process of "*reaching a Swedish consensus*". By discussing underlying assumptions, plans and what to prioritise in the different budgetary requests, eventually the budget can be agreed upon:

> *"It starts top-down and then you massage the budget downwards for a while, then it goes back up again for consolidation. Then you realise that it was too much yet again, so you massage it once more, then you consolidate and it is still too much, and so it continues - until everyone is equally dissatisfied."* ***- Senior Product Manager, TechCo***

Finally, when the budget has been settled, the yearly financial planning process is concluded when the CFO hands out next years' targets for each division and the units are to execute on their strategies. ResDiv's available resources amounted yearly to about SEK 10mn[5], which is a low number compared to TechCo's overall R&D-spend (including product development).

In the following sections we explain how the RAP unfolds in TechCo. We shed light on the roles different actors within the company had in the *definition* and *impetus* processes as well as the effect of contextual factors on the core processes. We use the yearly financial planning process as the setting for the study of the RAP in TechCo. To guide the reader through the empirics, we provide a summary of the financial planning process plotted against the three levels in our theoretical framework, as illustrated in Figure 5. In line with the theory of Bower (1970), the sub-processes of the financial planning process are allocated to a certain level depending on the primary determinant of the core processes attributed to the specific sub-process. The graphical representation should be seen as a frame of reference for the reader to get an overview of the process and the actors, rather than an in detail correct display of the full complexity of the RAP in TechCo.

[5] Fictitious number to preserve TechCo's anonymity.

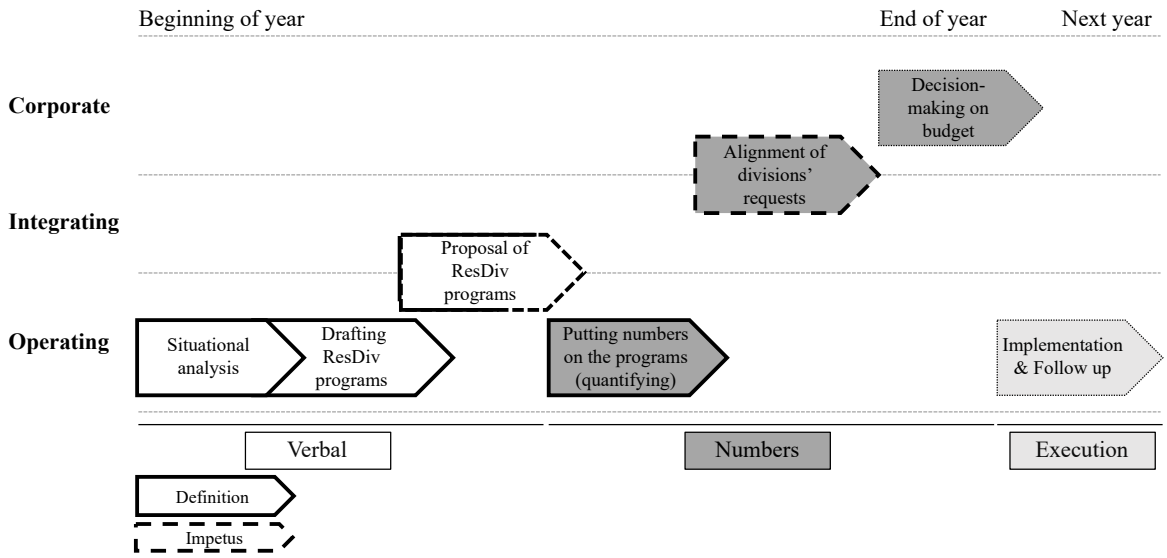

Figure 5. Our illustration of the primary determinants of the two core processes in the RAP, as seen through the yearly financial planning process in TechCo.

4.3. Operating Level

As elaborated upon in section 2.2.1.1, initiatives to new investment proposals are primarily initiated at the operating level by individuals close to operations. However, whereas Bower & Gilbert (2005) suggest the use of the framework to study the RAP for specific projects, we take a broader approach and instead study the RAP at an organisational level. Hence, in the light of TechCo being a decentralised organisation with separate units defining their own strategies and resource needs, we find it suitable to talk about ResDiv and the other divisions as the operating level.

Similar to other divisions at TechCo, ResDiv has to define its strategy and present a yearly budget to be used in the financial planning process at the group level. However, ResDiv differs compared to most other divisions in the sense that its strategy is based on a longer horizon. The strategy process is essentially about trying to figure out where industry-technology will be five to ten years into the future.

> *"We are now trying to carve out a strategy where we look at how we believe the world will look like in five to ten years. What are the technical challenges and issues?"*
>
> ***- Senior Manager, ResDiv***

ResDiv follows a structured process when drafting its strategy which is part of the overall financial planning process. It is in this strategic process where episodes of *definition*, i.e. the process of defining what is needed to bridge a discrepancy between a current and a future

state, is especially prevalent. In the first phase of the process, ResDiv performs a situational analysis. This includes scouting for trends and trying to understand what is happening both in the external environment as well as internally within TechCo:

> *"We look at all kinds of things, for example what emerging technologies we see, what we expect will happen in the future, what analytics companies [research and advisory consultants] say about future development, and what universities are researching on."* ***- Head of Research Strategy, ResDiv***

Following this analysis, discussions are held within ResDiv regarding what should be done, and the resources needed to fulfil the dual mission of ResDiv. The discussions take place in ResDiv's steering group, led by the Head of ResDiv and consists of managers in ResDiv as well as support staff.

> *"If we [ResDiv steering group] add up all the interesting things we want to do, it is certainly ten times more than we have resources for. As such, we try to find a balance between them and start prioritising according to what we believe is right. The definition of what we shall do, that is something we need to figure out ourselves."* ***- Head of ResDiv***

When the steering group has identified areas, they believe to be important, all researchers in ResDiv are invited to provide thoughts and input to create a joint discussion about the definition of the research strategy.

In the second phase, the situational analysis is used to set the strategic scope as managers within ResDiv make strategic choices on which research areas to focus on. Eventually, five to seven key areas, or "*research challenges*" as they are called internally, are narrowed down. These research challenges then form the basis for different research programs and activities planned to realise the strategy. The findings are then communicated to the rest of the organisation in different forums, further elaborated on below. As such, the operating level *initiates* the scoping of the research strategy. Then the identified research challenges are *championed* by ResDiv managers in forums where other stakeholders try to influence the strategy.

4.4. Integrating Level

The integrating level, i.e. the middle-managers in their integrating role between operating units and with the corporate management, is important in the core processes in two ways. Firstly, it functions as a *translator* of the complex research challenges *initiated* at the operating level, both towards other divisions and the corporate management team. Secondly, in the process of securing *impetus* the integrating level takes on a *brokering* role to handle opinions and proposals from product areas as well as budget negotiations with corporate management.

4.4.1. Translating Research Strategies

In phase three, the management of ResDiv explains the identified research challenges for the product areas and simultaneously seeks impetus for the research programs. This is primarily done at the ResDiv Board, which is a steering committee consisting of managers from ResDiv and technical experts from the product areas. The Head of ResDiv explains:

> *"We have internal discussions at Research, then we pitch the ideas at the ResDiv Board. Here people from the product areas are represented and forms a majority. It is very important what they think about our research strategies and their feedback is valuable. In the end, the research direction is mostly according to the ResDiv' initial proposal."* ***- Head of ResDiv***

The product areas then provide feedback on the proposals based on their perspectives. However, as indicated by the quote above they are generally pleased with ResDiv's research strategies. In the case of disagreements, they are generally not concerned with the content, but rather in what order issues should be prioritised. Prioritisation could be concerned with various things - from what features that are likely to provide most value for customers, to more fundamental questions such as whether ResDiv should be focusing on long-term issues or more current ones. To address the different perspectives of the product areas, ResDiv tries to address as many stakeholders as possible with their initiatives. However, this is not always an easy task as the divisions request different things from ResDiv:

> *"Some of our product areas ask more short-term questions, thus they receive more short-term support. Others ask more fundamental, long-term questions, and then they get more long-term strategic results. We adapt our work to the needs of the receivers."* ***- Head of ResDiv***

Having secured impetus for the research programs at the ResDiv Board, ResDiv moves into the next phase, which is dedicated to allocating numbers to the research programs.

4.4.2. Brokering for Impetus

4.4.2.1 Numbers Create Debate

During the second half of the financial planning process, when numbers are introduced, the need for creating impetus for explorative research becomes most prevalent as it is at this stage that scarcity of resources becomes obvious. Although the strategies that are governing for the budget requests were jointly defined by the divisions in the first half of the financial planning process, it is only when the plans are allocated numbers within the divisions that debate arise. As the TechCo Head of Business Control explains:

> *"As long as you only talk assumptions, it seems like everyone are agreeing. However, in the interpretation of words into numbers - then things sharpen up"*
> ***- Head of Business Control, TechCo***

This phenomenon is widely acknowledged by employees at TechCo. The upper levels of the company describe it as that the integrating managers enter *"target mode"* once numbers are introduced. However, as ResDiv proposes their budget in the financial planning process, in the integration with the other product areas and their budgetary request, the discussion is often not concerned with what the total amount of resources allocated to ResDiv should be. In fact, the amount of money that is allocated to ResDiv has been quite stable around SEK 10mn. Rather, the discussion with the other product areas centres around what value ResDiv adds. At this stage, to make product areas feel that they receive value for the money provided to ResDiv, the division tries to address as many stakeholders as possible with their explorative innovation initiatives, but also take the product areas' requests specifically into consideration in the form of exploitative "research-on-demand":

> *"It is a trade-off. We must adapt what we deliver so that they receive value from us."*
> ***- Head of ResDiv***

It appeared to be a general understanding among the interviewees that the product areas valued ResDiv's work differently. For example, when asked about how he thought that ResDiv should balance their long- and short-term activities, the Business Controller at Product Area A answered the following:

"In my opinion, ResDiv and the Product Areas' development organisations have different tasks, both being very important. But I think it is a positive thing that TechDep is an independent division, because if it would not have been this way, we would have put all our money on the short-term product development."
- Business Controller, Product Area A

The controller that was interviewed at Product Area B expressed a different view, explaining that they try to ensure that the activities of ResDiv produce as much value as possible for their product area:

"I think we would like to play a larger role in how ResDiv sets their yearly budget. What will they invest in? How much does it cost? And are these investments in things that we find useful, so we do not just spend [lots of money[6]] on things that will only benefit the other product areas? We want them to spend money on the things that are right for us; the things we need help with." ***- Business Controller, Product Area B***

The reasons for these different views was suggested to depend on several factors, for instance ResDiv's track-record in delivering long-term value to the product area in question, or because of the current long or short-term focus of a product area:

"Product Area A has much confidence in that we have the capabilities to understand the next technology generation and lead that work. They probably realise that we generate large values. In some areas we have a weaker track record and need to prove our capabilities in order to gain that trust." ***- Head of ResDiv***

In the balance between the long- and short-term research, one of the interviewees at ResDiv expressed that there was a frustration over the amount of shorter-term work guided towards the other product areas, over more long-term explorative research.

"I feel that we are doing a lot of product development support, short- and mid-term, and too little on explorative research. It would be wrong to say that we do not want to be more explorative, but the reality is that we are too few and our product areas really need deliveries from us." ***- Research Manager, ResDiv***

[6] Real figure disguised to preserve TechCo's anonymity.

4.4.2.2 Quantitative Arguments are Strong in the RAP

When discussing how impetus was secured at the integrating level, the interviews often centred around how ResDiv could make a case for the value of long-term explorative research, as shorter-term demands were easier to create impetus for. The strongest argument that the interviewees kept coming back to was that of the intellectual property rights (IPR) portfolio. TechCo has a large patent licensing business to which ResDiv is the main contributor, especially when it comes to the most valuable patents. For TechCo, the patents are not only important from a strategic perspective of securing leading technologies, but also fundamentally important from a financial perspective as they are usually integrated in technical standards for the entire industry, thus leaving competitors no choice but paying TechCo to use its technologies. The IPR-portfolio is thus financially vital as it generates high margin revenue from licensing fees, but it is also important for cost avoidance purposes:

> *"If we would not have any patents it would be very difficult to do business in Product Area A as we would have to pay high license fees to our competitors."*
> ***- Head of Research Strategy, ResDiv***

Several of the interviewees within ResDiv explained how they used the IPR as an argument towards the rest of the organisation when arguing for more resources for explorative research. For example, the Head of Research Strategy at ResDiv highlighted this fact:

> *"We track the development of the average number of patents generated per person. We can show that we year after year have increased the number of patents an average researcher is generating. Of course, that is a strong argument and we can say that 'yes, by adding more people you will get more patents and more patent revenue'."*
> ***- Head of Research Strategy, ResDiv***

The weight of the IPR argument was related to its measurability and the possibility to make a compelling argument around it in a business case.

> *"It is relatively simple to tie a financial number to patents because you can directly see that 'okay, we did research in this specific topic and now we have a set of patents in that area that we monetise on'. In that sense it is quite easy to track the return on investment."*
> ***- Head of Research Strategy, ResDiv***

Although the IPR-portfolio was considered a strong argument for ResDiv in the RAP, it was not enough to convince other stakeholders that ResDiv should be allocated more resources:

"The money generated from the IPR-portfolio feeds almost directly to the bottom line while it simultaneously saves an equal amount as we otherwise would have had to pay license fees to competitors. As we [ResDiv] do not own a P&L, this revenue is allocated to the product areas. However, they do not want to acknowledge that when talking budgets with me and when I mention this fact they respond 'well, we still want more value for the money'." ***- Head of ResDiv***

In lack of compelling quantitative arguments, other types of arguments are also emphasised by ResDiv. For instance, the patents on explorative research do not only generate financial benefits, but also ensure that TechCo has a superior understanding of the technology compared to competitors as they have been internally developed. Moreover, being pioneers enables a faster time-to-market, in turn yielding a higher market share. However, these arguments are more difficult to make, as although ResDiv has done the fundamental research, other parts of the organisation have contributed to the final products, for instance through pre-development, development and sales. Furthermore, ResDiv creates additional value, by for instance acting as a talent pool for young researchers who are later transferred to the product areas or providing a brand image to customers as the industry's technology-leader. These capabilities are of high value to the whole company, yet very difficult to quantify and measure.

Apart from the difficulties in measuring the total value generated by ResDiv, several interviewees emphasised the tough position ResDiv had in the RAP when uncertain explorative research projects were contrasted to more short-term, exploitative product development. One interviewee explained:

"The CTO goes up against a much easier equation for short-term development, which has a clear business case, based on a concrete customer and a concrete product. It is simpler to visualise and realise." ***- Head of Business Control, TechCo***

To overcome the shortcomings of the existing arguments, ResDiv had identified a need for more quantitatively based arguments to gain impetus at the integrating level. Several interviewees explained that the organisation wanted some kind of measure that could capture the benefits provided by ResDiv. Thus, a few months prior to our study ResDiv had ventured into a project seeking to find a return on investment (ROI) measure for explorative research. This quest had so far only been able to estimate the ROI coming from the IPR-licensing fees,

which amounted to low double digits. A measure taking the remaining value into account had still not been found.

Nonetheless, a positive side-effect of the initiative to find a ROI-measure was that managers and researchers in ResDiv, with a very technical background, had started to realise the need to think about numbers in their work. As explained by the Senior Business Controller in TechDep, the "I-want-value-for-money-mindset" had historically been more prevalent in the product areas given their financial orientation than in ResDiv. There has been a fear within ResDiv that this mindset would impact the technologically driven innovation work negatively. Yet, the same business controller acknowledged that the discussions around the measures has opened up the division for an understanding of the product areas' ways of thinking, which helped integrating ResDiv's work with the rest of the organisation:

> *"ResDiv needs to be able to combine the value- and technology-mindsets so that we can come close to the product areas in our daily work with them."*
> ***- Senior Business Controller, TechDep***

4.5. Corporate Level

First and foremost, the corporate level has an important role in *aligning* the ideas coming from different parts of the organisation and make sure they are in line with corporate needs. Furthermore, the corporate level has the decision-making power and, therefore, the authority to ultimately *commit* to a certain proposal. However, the corporate level can also influence the core processes top-down by setting the *structural context*. For instance, the corporate management can steer the definition process and which proposals that are likely to gain impetus by how organisational members are measured and what they are held accountable for. Further, the corporate level can in turn be influenced by the *capital market context* and *product market context,* which in turn shape structural context. In addition, the strategic context has a role in shaping the structure bottom-up.

4.5.1. Corporate Level Affecting RAP by Shaping the Structural Context

TechCo had experienced a couple of years of poor profitability and weak share price development, something the new CEO was hired to turn around. As the most pressing issue for the corporate management was to restore profitability, consolidated operating margin (EBIT) became the dominating metric in the company. This was also clearly communicated to the divisions, thus the *capital market context* shaped *structural context* in the RAP. For

example, since ResDiv is part of TechDep, a group function lacking profit and loss ownership, the argument for increasing costs is weaker compared to if a product area would increase their costs, as the latter could be related to a following increase in revenue:

> *"You have a very difficult case if you want to make a central investment as you [as a group function] do not own a top line. The added value will not be accredited to your own [group function], but to someone else. For example, net sales [stemming from work by ResDiv] will not be attributed to TechDep, but to one of the product areas."*
> ***- Head of Business Control, TechCo***

The effect of the operating margin focus was also seen in discussions with the product areas. Since Product Area B was one of the "*problem children*" in TechCo profitability-wise, this put high pressure on the managers in said product area to turn things around. As the costs incurred in ResDiv was allocated to each product area based on their share of total R&D spend, the product areas tried to impact the activities in ResDiv by arguing for short-term value-adding activities. However, from a product area perspective, the allocation of TechDep's costs were not necessarily seen as a negative thing. The reason was that it enabled the product areas to be involved in and align the work that ResDiv does, thus ensuring that value was received from ResDiv's work:

> *"I believe it is good to allocate the central costs and that we are measured including them. It encourages us to have a dialogue about the group functions' [including ResDiv] investment areas and the total costs, and in that way ensure that the investment areas are in line with our strategies and products."* ***- Business Controller, Product Area B***

Nonetheless, many of the interviewees emphasised that ResDiv had a good starting position for justifying their overall budget because of the department's historical importance in making TechCo the organisation it is today. This shared understanding of the history and the engineering focus of the company was argued to contribute to making it easier to gain impetus for long-term research compared to other group functions, such as HR or Finance. Hence, as ResDiv proposed its budget for the corporate level the discussion was not usually concerned with what the total amount of resources allocated to ResDiv should be.

4.5.2. Corporate Management's Role in Committing Resources

The final and decisive *commitment* comes from corporate management in the latter phases of the financial planning process. After defining the budgetary need internally in ResDiv, the CTO, as the ultimate responsible of ResDiv, goes up to the CEO and CFO with an ambition to gain impetus and final commitment for the proposed research activities. In the meantime, the finance function compiles the budgetary requests from the different divisions to an overall budget proposal which is presented to the CFO who decides if its viable or not. It is often at this stage that what was earlier described as "*number crunching*" within the integrating level occur. In addition to this gatekeeping role of the CFO, commitment from the corporate management is important in the case of persistent disagreements between the different divisions at the integrating level as the CEO and the CFO are the final decision-makers:

> ***"****Most often strategic alignment is achieved by cross organisational participation in the strategy development process. […] Sometimes we are looking at the future priorities differently, as we have different areas of responsibilities. In these situations, the resolution of the strategic choices is achieved within the strategic discussions that is held on corporate level.****"*** *-* ***Head of Technology Strategy, TechDep***

In November, at the end of the financial planning process, there is a final meeting with the heads of the different divisions as well as other senior members of TechCo, including the CEO and the CFO. At this occasion the budget is decided upon for the coming year.

When allocating resources, there are also underlying considerations such as roadmaps or strategically important products or markets which needs to be taken into consideration. For example, there is a strong cyclicality in the underlying technological development-pattern for TechCo's products. Accordingly, TechCo will at any given time be more exploration or exploitation targeted depending on the timing of the sales cycle for the underlying technologies in their product market context. This type of strategically important investments is often known throughout the company and thus, the CEO and the CFO can commit resources to them accordingly. The Senior Business Controller in TechCo exemplifies:

> *"Of course, there are windows in the market for certain investments. For example, if you really need to develop [Product A] in USA or China right now, then that might become a top priority. Then the benefits of such decisions will have to be weighed against the impact on*

cash-flow and short-term profitability, and the effect on the amount of resources allocated to other longer-term activities." - **Senior Business Controller, TechCo**

Adjacent to the discussion above, areas of the company with an especially strategic importance was also taken into consideration. For example, Product Area A has had a favourable development in their market during the last few years. As such, their share of the profitability to the group was relatively dominant, so was the amount of activities from ResDiv targeted towards said product area. This seemingly unique position could be seen as affecting the RAP, not driven by management's deliberate strategies but by the *strategic context,* as Product Area A's strategy shaped the structural context, i.e. "strategy shaped structure".

5. Discussion

In this section, the case findings are discussed. In section 5.1 we contrast our findings with previous literature in accounting and innovation. In section 5.2 we develop on how the allocation of accountability shaped TechCo's RAP. Lastly, section 5.3 elaborates on the finding that capital markets' focus on financial metrics affects innovation ambidexterity.

5.1. Accounting Increases Horizontal Integration, but Favours Exploitation

In this section, we compare our findings at TechCo with the existing research on innovation and ambidexterity. Under 5.1.1, we elaborate upon how accounting worked to increase interdivisional dialogue and integration between units, building on previous research such as Bedford et al. (2019). Under 5.1.2, we shed light on some contrasting findings compared to those of Bedford et al. (2019) in that accounting calculations were found to favour exploitation and thus incremental innovation. These findings are however in line with other research, such as Revellino & Mouritsen (2015) and Davila et al. (2005).

5.1.1. Accounting as a Catalyst for Divisional Alignment

Today, there is a consensus in the accounting and innovation field that accounting has an enabling rather than coercive effect on innovation if used in certain ways (e.g. Bisbe & Otley, 2004; Brown & Eisenhardt, 1997; Jørgenssen & Messner, 2009). Later studies have explored the role accounting plays in enabling different types of innovation, for instance, radical and incremental innovation, i.e. ambidextrous innovation (e.g. Bedford, 2015; Ylinen & Gullkvist, 2014; Bisbe & Malagueño, 2009). Bedford et al. (2019) argue that accounting can facilitate ambidextrous innovation through cognitive conflict, i.e. disagreements about content or differences in viewpoints on how to realise a common objective, sparked by accounting information.

In line with how Bedford et al. (2019) found that accounting sparked cognitive conflict, we see that the financial planning process in TechCo created cognitive conflict when accounting numbers were linked to verbal strategies. As explained by the Head of Business Control in TechCo, the longer-term verbal strategies were easy to agree upon, but as soon as numbers were introduced, differences in viewpoints emerged between product areas, ResDiv and the corporate level. Discussions about the resource allocation arouse as the aggregated

budgetary requests rarely ended up within acceptable frames. This highlighted underlying disagreements on how to realise the strategies already verbally agreed upon. However, this excess also promoted interdivisional discussions to reach an agreement on where resources should be allocated. The discussions at the integrating level were further accentuated by interdivisional dependencies in terms of accountability. This was exemplified by the quotes from the Business Controller in Product Area B that emphasised that the allocation of group costs encouraged dialogue at the integrating level. Consequently, the increased communication created a higher understanding among the participants in the RAP of what each product area deemed important, thereby increasing horizontal alignment. This finding is in line with Bedford et al. (2019), in that cognitive conflict highlights differences in viewpoints that can be discussed by the organisational actors, thus increasing the shared understanding of how to reach a common objective.

In a similar vein, we see that efforts of finding the value attributable to ResDiv enhanced the interdivisional understanding. Due to the difficulty of assigning value to the explorative innovation efforts, an initiative had been taken prior to our study to find a ROI-measure that could capture the true value produced by ResDiv. The aim was to build solid business cases based on numbers, which could be used to argue for more resources in the financial planning process. However, it was proved to be a complex issue and a solution had not been found at the time of our study. Nonetheless, a positive side-effect of the initiative was that it had forced managers and researchers with a technical background at the operating level in ResDiv to, in the process of definition, think about how technical aspects could be translated into financial outcomes. According to the Senior Business Controller in TechDep, this unexpected outcome has started to bridge the understanding between ResDiv and the product areas in TechCo. By introducing measures in ResDiv (such as ROI) that were more easily understood in the rest of the organisation, the gap between the explorative and exploitative efforts in the organisation decreased. As such, we find that despite the difficulties of allocating numbers to explorative research, the efforts of doing so can be valuable to create an alignment between different parts of the organisation.

Consequently, we see that the introduction of accounting calculations in ResDiv, as an outcome of the RAP in TechCo, served as a catalyst for aligning the different divisions. This was done not only by creating cognitive conflict between divisions, but also by changing the mindset within a division. Firstly, these findings add contextual nuances to Bedford et al.'s

(2019) findings that accounting can facilitate decision-making through highlighting differences in viewpoints. Secondly, the findings further the literature on structural ambidextrous separation by detailing how accounting facilitated integration between divisions. This is interesting as structural separations has been said to lead to isolation (Birkinshaw & Gibson, 2004), imposing a need for integration and transfer of knowledge between separate business units for successful structural ambidextrous efforts (McCarthy & Gordon, 2011; Farjoun, 2010).

5.1.2. Accounting Favours Exploitation over Exploration

Yet, the accounting calculations used in TechCo, such as consolidated operating margins or ROI, was found to favour exploitative research and the associated shorter term, more certain payoffs. As an example, in the integration with other product areas, the CTO found it difficult to argue against short-term development efforts in favour of the long-term value that ResDiv's explorative research yields. This was because the short-term development had a clear business case based on a concrete customer and a concrete product, whereas the calculations on explorative efforts had a five to ten-year time horizon and by nature uncertain outcomes. In seeking impetus from other unit heads, the CTO was certain of ResDiv's importance for TechCo's long-term success. The problem was that the value that ResDiv generated through their explorative research was difficult to quantify and hence not as effective in creating impetus. This observation is in line with previous scholars who have elaborated upon the difficulty in measuring the value of exploration and radical innovation (Revellino & Mouritsen, 2015; Davila et al., 2005) as well as research claiming that exploitation is likely to be advocated by accounting (March, 1991; McCarthy & Gordon, 2011). Accordingly, an interesting finding arises in that accounting can work to integrate divisions and facilitate decision-making through cognitive conflict and changed perspectives, yet, this integration must not necessarily lead to better ambidextrous innovation outcomes.

In conclusion, our findings only partly resonate with the findings of Bedford et al. (2019) on how ambidexterity is affected by discussions over the design and use of accounting. Although accounting worked to increase horizontal alignment and facilitated discussions, accounting at TechCo also worked to downplay ambidextrous innovation outcomes. In line with previous researchers (e.g. March, 1991; McCarthy & Gordon, 2011), we see that accounting calculations can favour exploitation over exploration, thereby undermining

innovation ambidexterity. Additionally, the findings on accounting's role in horizontal alignment through the RAP add knowledge to the literature on horizontal alignment for ambidexterity (e.g. Birkinshaw & Gibson, 2004; McCarthy & Gordon, 2011; Farjoun, 2010) in detailing how accounting could work to integrate the thinking of separate ambidextrous business units - however not necessarily with ambidextrous innovation outcomes, due to accounting's tendency of furthering exploitation.

5.2. Allocation of Accountability Shapes Innovation Ambidexterity

As TechCo is a decentralised organisation, ResDiv is highly dependent on the alignment and impetus from other divisions. Although ResDiv could be seen as contextually ambidextrous given their dual mission, the division was nevertheless structurally separated from the product organisations a few years back. The aim was to facilitate a better balance in ambidextrous efforts. The separation has enabled ResDiv to maintain a stable budget over the years. In fact, the size of the resource-pool was widely accepted in TechCo, exemplified by the reluctance from the corporate level to make any cuts to its SEK 10mn allocation, or how the other product areas expressed an understanding of the importance of long-term explorative research. Accordingly, following the structural separation, there was little discussion about decreasing the overall size of ResDiv's budget. Instead, the discussions at the integrating level with other divisions in the RAP centred around what activities ResDiv should pursue, given ResDiv's two-fold mission of both supporting the product areas and conducting longer term research. The Business Controller in Product Area B explained that as the product areas were measured on consolidated operating margins where the costs of ResDiv had an impact, his product area tried to maximise the value they got from these costs. As a result, ResDiv felt a pressure from certain product areas to focus on exploitative product development. Consequently, several interviewees in ResDiv voiced a concern that ResDiv was not as explorative as desired, e.g. the Research Manager at ResDiv who suggested that the share of "research-on-demand" from the product areas of the total activities in ResDiv was higher than optimal because of the product areas' needs.

In his 2010 paper, Simons argues that management can steer subordinate's behaviour towards exploration or exploitation by shifting the allocation of resources available (i.e. the spans of control) or altering the level of accountability (i.e. the spans of accountability). Our findings build on Simons' (2010), as we see that the distribution of accountability from the corporate level, i.e. how management shaped *structural context*, impacted the level of

ambidexterity in ResDiv, and thus, in TechCo. As established under section 5.1, it was difficult to quantify the complete value of explorative research, making it difficult for ResDiv to gain impetus in the RAP. Yet, the value stemming from the intellectual property rights (IPR) portfolio, to which ResDiv contributed with the most valuable patents, was easy to quantify. The IPR-portfolio was seen as a particularly strong argument as the licensing fees had an almost direct impact on the bottom line. Nonetheless, as explained by the Head of ResDiv, it surprisingly did not make any large difference in the RAP. In understanding why this was the case, we find that how accountability was set up had an important impact on the resource allocation.

As ResDiv only is held accountable for cost, any monetary value produced by ResDiv (e.g. revenue and savings related to patents) will be realised in the product areas. This understanding, combined with the fact that other units are allocated ResDiv's costs, make other product areas fund the activities in ResDiv. Thereby, the product areas' power in the RAP is increased compared to ResDiv, forcing ResDiv to negotiate on what activities to pursue. Accordingly, ResDiv's dependence on gaining impetus from other product areas in the RAP works to drive exploitative activities over explorative. Although ResDiv's budget remained stable, the ambidextrous efforts were partly determined by their resource-dependence on the product areas.

These findings could be related to those of Christensen & Bower (1996), who elaborated on the product market context and the inability of the RAP to handle the dominance of the demands of current customers and products in relation to emerging customer and product segments. Similar to the problems caused by external customer pressure highlighted by Christensen and Bower (1996), the product areas in a sense acted as "internal customers" as they requested "research-on-demand". Thus, their demands shaped the resource allocation within ResDiv. Accordingly, as Christensen & Bower (1996) see that the RAP is shaped by external customer relations, we find that resource allocation in ResDiv is influenced by internal customer relations because of the structure for accountability. Thereby, internal markets in large organisations can have an impact on ambidextrous innovation.

Our findings suggest that although structural separation works to maintain the amount of resources allocated to an ambidextrous unit, exploitative efforts may be favoured due to the effect of the structural context on the RAP. In our case, this was because of the allocation of accountability to different divisions in the decentralised RAP. Hence, a dependence on other

actors for resource-allocation may disable ambidextrous innovation strategies due to the design of accountability. In other words, a bias for exploitation is likely to arise in ambidextrous units that are dependent on resource commitments from units with an exploitative focus.

By connecting the literature on organisational structures and its impact on ambidexterity with the proposed factors for creating ambidexterity identified by Simons (2010), i.e. the role of allocation of resources and accountability, we find that the allocation of accountability between divisions affects the RAP, thereby shaping innovation ambidexterity strategy. This could be seen as another source of accounting-bias towards exploitative innovation, complementing the findings that accounting calculations can favour exploitation over exploration as identified by previous researchers (e.g. March, 1991; Davila et al., 2005; McCarthy & Gordon, 2011). These findings contribute to the theoretical gap in accounting and ambidexterity, more precisely on how accountability affects the RAP and the related effect on ambidextrous innovation strategies. Additionally, by providing evidence on how accounting affects the resource allocation between explorative and exploitative innovation strategies, we bridge the understanding of the accounting and management literature on ambidexterity.

5.3. Capital Markets' Focus on Financial Metrics Affects Innovation Ambidexterity through the RAP

The role of the capital market has previously been developed in the strategy and RAP-literature (Noda & Bower, 1996; Sull, 1999; Eisenmann & Bower, 2000; Bower & Gilbert, 2005). By applying the RAP-theory in studying innovation ambidexterity at TechCo, we find that the capital market has an effect on the resource allocation in ResDiv through its impact on the structural context. Thereby, building on evidence from TechCo's RAP, we find that the capital market can play an important role in shaping ambidextrous innovation.

The effect of the capital market context is most clearly seen through the effects from the change of corporate management team a few years back. As the new, financially oriented, CEO acceded with the aim to achieve a turnaround, the overall strategy shifted from growth to profitability. The commitment to the new strategy became apparent when the CEO communicated financial targets to the market, something TechCo had been very cautious with in the past. The new main target was to increase the consolidated operating margins,

which translated into new demands for each product area. As such, the capital market context had brought forward a change in how corporate management measured the product areas. The new conditions struck the different product areas differently as some of them were already profitable, whereas others had a tougher journey ahead to achieve profitability. As the new targets were to be achieved within a specific time frame, the product areas felt a pressure to quickly turn things around, which also had an effect on the RAP.

The new paradigm did not bring forward a direct effect on the balance between exploration and exploitation. As an example, over this period of intense profitability focus, the SEK 10mn budget to ResDiv remained intact, and even increased slightly. However, the changes had an indirect effect on ambidexterity as the horizontal alignment in the RAP brought forward requests from certain product areas that favoured exploitative innovation activities. The more profitable product areas expressed positive views on the long-term value-add by ResDiv, whereas the product areas facing heavier margin pressure expressed a need to extract short-term value from ResDiv. The consequence was that ResDiv received increased requests for exploitative product development, thus shaping the balance between exploration and exploitation.

Consequently, we find that the capital market-demands have an effect on ambidexterity by driving exploitation. As previous research identifies, balancing explorative and exploitative efforts is required to yield innovation ambidexterity, which is essential to guarantee an organisation's long-term competitiveness (Birkinshaw & Gibson, 2004; He & Wong, 2004; O'Reilly & Tushman, 2008; Smith & Tushman, 2005). Yet, the returns of explorative innovation efforts are more distant and uncertain as opposed to the returns of exploitative endeavours. As stock performance to a large extent is built on companies' ability to meet or beat analysts' estimates, the capital market tends to reward those who can provide reliable guidance and deliver stable performance. Hence, the mechanisms of the capital market could be seen to have a dampening effect on the appetite for explorative innovation efforts, because of the distant and uncertain return attributable to it. Instead, it tends to amplify the favouring of exploitative innovation efforts because of the short-term and more certain payoffs. To identify and counteract this potential bias towards exploitation our findings should be of significant interest for innovation-driven companies operating under the short-term pressure characterising stock markets.

6. Conclusions

With this study we aim to contribute to the relatively underdeveloped stream devoted to accounting and innovation ambidexterity. We do this by drawing on resource allocation process (RAP)-theory and the framework by Bower & Gilbert (2005). This has been helpful in guiding the empirical inquiry and thus yielding new interesting insights to our research question: *What role does accounting play in shaping ambidextrous innovation strategies through resource allocation?* In line with Bedford et al. (2019), our findings validate that accounting calculations and numbers in general work as a catalyst to spark cognitive conflict. For our case company, TechCo, this led to increased inter-divisional dialogues resulting in better horizontal alignment. However, in contrast to Bedford et al. (2019), we did not find that cognitive conflict facilitated innovation ambidexterity. On the contrary, accounting calculations were found to favour exploitation. The reason was that it was difficult to gain impetus for explorative research, partly attributable to the difficulty of making quantitative arguments, confirming the findings of previous scholars highlighting the difficulty in assigning numbers to explorative research due to its uncertain nature (Revellino & Mouritsen, 2015; Davila et al., 2005). Further, we contribute to the accounting and innovation ambidexterity literature with two important findings.

Firstly, we identify another source of accounting-bias towards exploitative innovation. Similar to how Christensen & Bower (1996) argued that demands from existing customers shaped the RAP, we find that the TechCo product areas acted as internal customers to ResDiv due to how the corporate level allocated accountability. Following a lack of P&L responsibility, ResDiv's costs and value contribution were allocated to the product areas instead. As they were indirectly funding ResDiv's operations, the product areas held a strong position to request exploitative product development from ResDiv. Hence, a dependency on resource commitments from exploitative units is likely to create bias for exploitation in ambidextrous units. These findings are in line with Simons (2010) who found that management can steer behaviour towards exploration or exploitation by tweaking the span of accountability. These findings contribute to the theoretical gap on how resource allocation affects ambidextrous innovation strategies in detailing accountability as a factor that could drive exploitation. Additionally, these findings connect the accounting and ambidexterity literature with research that has studied ambidexterity through organisational structures. We

do so by identifying that the resource allocation between structurally separated units has an effect on innovation ambidexterity.

Secondly, we find that the capital market plays an important role in determining ambidextrous innovation strategies through its effect on resource allocation. In an attempt to restore profitability and increase stock performance, consolidated operating margins became the main target in TechCo, which in turn had implications for the RAP. Although the resources available for ResDiv remained intact, the tighter financial controls caused certain product areas with more pressing profitability issues to request exploitative activities from ResDiv to boost short-term performance. Thus, we find that ambidexterity is affected by capital market-demands as it drives exploitation. Accordingly, these findings add knowledge to the accounting and innovation ambidexterity literature by highlighting the role of capital markets as a factor enforcing the accounting biases for exploitation identified by previous research (e.g. March, 1991; Davila et al., 2005; McCarthy & Gordon, 2011). These findings have the potential to create awareness and thus possibilities to counteract any biases towards exploitation. Hence, these insights could also be valuable for practitioners, especially for innovation-focused companies operating under the short-term, quarterly pressure that characterises stock markets.

Further, we make secondary contributions to the resource allocation literature. Our adaption of the RAP-framework contributes with an understanding to the RAP-literature by detailing how the resource allocation between interdependent organisational divisions can be studied. This adaption has also enabled the identification of an "internal customer market"-concept. Lastly, we provide a secondary contribution to the RAP literature by detailing accounting's role in the RAP and its effect on shaping the core processes, the organisational levels and the contextual factors.

The aforementioned findings are subject to certain limitations. From the inherent iterations in an abductive research process the scope of the thesis evolved over time. A longer timeframe would have been beneficial to conduct further interviews thereby providing additional depth and context to our findings. Similarly, although interview-requests were sent, we have not been able to capture the direct perspective from central individuals at the corporate level in the RAP (e.g. CTO, CFO). As these individuals are yet included in the scope of our study, our understanding has been shaped by indirect observations of their roles and perspectives in the form of assertions of employees working in their direct vicinity.

Finally, it should be noted that our findings stem from a certain contextual setting which mean that they will not necessarily hold true in other empirical settings.

We recommend future research to expand the contextual understanding of accounting on innovation ambidexterity. This could be done for example by comparative analyses based on a multiple case study, or in studying settings other than the one studied herein. Additionally, findings from our interviews suggested that management accountants played an important mediating role in the enablement of ambidextrous innovation strategies, working as translators between economic and technical domains. Although these findings were outside the scope of this thesis, we suggest that future accounting research explore these findings further by developing this profession's role in creating ambidexterity.

7. References

Abernethy, Margaret A. and Brownell, Peter, (1997), Management control systems in research and development organizations: The role of accounting, behavior and personnel controls. Accounting, Organizations and Society, 22, issue 3-4, p. 233-248.

Ahrens, Thomas and Chapman, Christopher S., (2006), Doing qualitative field research in management accounting: Positioning data to contribute to theory, Accounting, Organizations and Society, 31, issue 8, p. 819-841.

Andriopoulos, Constantine & Lewis, Marianne. (2009). Exploitation-Exploration Tensions and Organizational Ambidexterity: Managing Paradoxes of Innovation. Organization Science. 20. 696-717. 10.1287/orsc.1080.0406.

Bansal, P., & Corley, K. (2011). From the editors the coming of age for qualitative research: Embracing the diversity of qualitative methods. Academy of Management Journal, 54(2), 233-237. https://doi.org/10.5465/AMJ.2011.60262792

Bedford, David S. (2015) Management control systems across different modes of innovation: Implications for firm performance, Management Accounting Research, Volume 28, Pages 12-30, ISSN 1044-5005, https://doi.org/10.1016/j.mar.2015.04.003.

Bedford, David S. & Bisbe, Josep & Sweeney, Breda. (2019). "Performance measurement systems as generators of cognitive conflict in ambidextrous firms," Accounting, Organizations and Society, Elsevier, vol. 72(C), pages 21-37. DOI: 10.1016/j.aos.2018.05.010

Benner, M., & Tushman, M. (2003). Exploitation, Exploration, and Process Management: The Productivity Dilemma Revisited. The Academy of Management Review, 28(2), 238-256. Retrieved from www.jstor.org/stable/30040711

Birkinshaw, Julian & Gibson, Cristina. (2004). Building Ambidexterity into an Organization. MIT Sloan Management Review. 45.

Birkinshaw, Julian & Gupta, Kamini. (2013). Clarifying the Distinctive Contribution of Ambidexterity to the Field of Organization Studies. Academy of Management Perspectives. 27. 287-298. 10.5465/amp.2012.0167.

Bisbe, Josep and Malagueño, Ricardo. (2009) The Choice of Interactive Control Systems under Different Innovation Management Modes. European Accounting Review,.

Bisbe, Josep and Otley, David, (2004), The effects of the interactive use of management control systems on product innovation, Accounting, Organizations and Society, 29, issue 8, p. 709-737.

Bower, J. L., Gilbert, C. G. (2005). From resource allocation to strategy. Oxford, UK: Oxford University Press.

Bower, J. L. (1970). Managing the Resource Allocation Process: A Study of Corporate Planning and Investment. Boston, MA: Harvard Business School, Division of Research.

Brown, S.L. and Eisenhardt, K. (1997) The Art of Continuous Change: Linking Complexity Theory and Time-Paced Evolution in Relentlessly Shifting Organizations. Administrative Science Quarterly, 42, 1-34. http://dx.doi.org/10.2307/2393807

Burgelman, R. (1983a). A Model of the Interaction of Strategic Behavior, Corporate Context, and the Concept of Strategy. The Academy of Management Review, 8(1), 61-70.

Burgelman, R. (1983b). A Process Model of Internal Corporate Venturing in the Diversified Major Firm. Administrative Science Quarterly, 28(2), 223-244. doi:10.2307/2392619

Chiesa, Vittorio & Frattini, Federico & Lamberti, Lucio & Noci, Giuliano. (2009). Exploring management control in radical innovation projects. European Journal of Innovation Management. 12. 416-443. 10.1108/14601060910996909.

Christensen, C., & Bower, J. (1996). Customer Power, Strategic Investment, and the Failure of Leading Firms. Strategic Management Journal, 17(3), 197-218.

Curtis, Emer and Sweeney, Breda, (2017) Managing Different Types of Innovation: Mutually Reinforcing Management Control Systems and the Generation of Dynamic Tension. Accounting and Business Research (Forthcoming).

Damanpour, F. (1991). Organizational Innovation: A Meta-Analysis of Effects of Determinants and Moderators. The Academy of Management Journal, 34(3), 555-590.

Davila, Tony & Epstein, Marc & Shelton, Robert. 2005. Making Innovation Work: How to Manage It, Measure It, and Profit from it (First ed.). Wharton School Publishing.

Dubois, Anna & Gadde, Lars-Erik. (2002). Systematic Combining: An Abductive Approach to Case Research. Journal of Business Research. 55. 553-560. 10.1016/S0148-2963(00)00195-8.

Duchesneau, T. D., S. Cocn & Dutton, J. (1979). A Study of Innovation in Manufacturing: Determination, Processes and Methodological Issues. Vol. I, Social Science Research Institute, University of Maine, Orono,

Duval, L.E. (2016). Organisational Ambidexterity and the Management Accountant: A Review. Journal of Applied Management Accounting Research. Vol. 14, No. 2

Dyer, W., & Wilkins, A. (1991). Better Stories, Not Better Constructs, to Generate Better Theory: A Rejoinder to Eisenhardt. The Academy of Management Review, 16(3), 613-619.

Eisenhardt, K & Kahwajy, Lena & Bourgeois, L.. (2009). How Management Teams Can Have a Good Fight. Harvard Business Review. 75. 77-85.

Eisenmann, Thomas & Bower, Joseph. (2000). The Entrepreneurial M-Form: Strategic Integration in Global Media Firms. Organization Science 11. 348-355. 10.1287/orsc.11.3.348.12501.

Farjoun, Moshe. (2010). Beyond dualism: Stability and change as a duality. The Academy of Management Review. 35. 10.5465/AMR.2010.48463331.

Gschwantner, Stefanie & Hiebl, Martin. (2016). Management Control Systems and Organizational Ambidexterity. Journal of Management Control. 27. 371-404. 10.1007/s00187-016-0236-3.

He, Zi-Lin & Wong, Poh Kam. (2004). Exploration vs. Exploitation: An Empirical Test of the Ambidexterity Hypo. Organization Science. 15. 481-494. 10.1287/orsc.1040.0078.

Hopwood, Ag, (1972), Empirical Study Of Role Of Accounting Data In Performance Evaluation, Journal of Accounting Research, 10, issue , p. 156-182.

Jørgensen, Brian & Messner, Martin. (2009). Management Control in New Product Development: The Dynamics of Managing Flexibility and Efficiency. Journal of Management Accounting Research. 21. 10.2308/jmar.2009.21.1.99.

Leifer, Richard & O'Connor, Gina & Rice, Mark. (2001). Implementing Radical Innovation in Mature Firms: The Role of Hubs. Academy of Management Executive. 15. 102-113. 10.5465/AME.2001.5229646.

Lukka, Kari and Modell, Sven, (2010), Validation in interpretive management accounting research, Accounting, Organizations and Society, 35, issue 4, p. 462-477.

Lukka, Kari & Vinnari, Eija. (2014). Domain theory and method theory in management accounting research. Accounting Auditing & Accountability Journal. 27. 1308-1338. 10.1108/AAAJ-03-2013-1265.

March, J. (1991). Exploration and Exploitation in Organizational Learning. Organization Science, 2(1), 71-87

McCarthy I. P. & Gordon B. R. (2011). Achieving contextual ambidexterity in R&D Organizations: A Management Control System Approach, R&D Management, 43(1): 240-258

Moll, J., Messner, M., & Strömsten, T. (2017). Credibility and authenticity in qualitative accounting research. In The Routledge Companion to Qualitative Accounting Research Methods. Routledge.

Noda, Tomo & Bower, Joseph. (2007). Strategy making as iterated processes of resource allocation. Strategic Management Journal. 17. 159 - 192. 10.1002/smj.4250171011.

O'Reilly, Charles & Tushman, Michael. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. Research in Organizational Behavior. 28. 185-206. 10.1016/j.riob.2008.06.002.

O'Connor, Gina & Demartino, Richard. (2006). Organizing for Radical Innovation: An Exploratory Study of the Structural Aspects of RI Management Systems in Large Established Firms. Journal of Product Innovation Management. 23. 475 - 497. 10.1111/j.1540-5885.2006.00219.x.

Patton, M.Q. (2002), “Qualitative research & evaluation methods”. SAGE, London

Revellino, Silvana & Mouritsen, Jan. (2015). Accounting as an engine: The performativity of calculative practices and the dynamics of innovation. Management Accounting Research. 28. 10.1016/j.mar.2015.04.005.

Roth, K. & Kostova, T. (2003), "The use of the multinational corporation as a research context", Journal of Management, vol. 29, no. 6, pp. 883-902.

Ryan, B., Scapens, R.W. & Theobald, M. (2002), Research Method and Methodology in Finance and Accounting, 2nd edn, Cengage Learning EMEA, Hampshire.

Simons, R. (2010). The Entrepreneurial Gap: How Managers Adjust Span of Accountability and Span of Control to Implement Business Strategy. Harvard Business School Accounting & Management Unit (Working Paper) No. 13-100.

Smith, Wendy & Tushman, Michael. (2005). Managing Strategic Contradictions: A Top Management Model for Managing Innovation Streams. Organization Science

Sull, Donald. (1999). The Dynamics of Standing Still: Firestone Tire & Rubber and the Radial Revolution. Business History Review. 73. 10.2307/3116183.

Tushman, Michael, and C. O'Reilly. (1996) "Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change." California Management Review 38, no. 4. 8–30.

Mika Ylinen, Benita Gullkvist, (2014) The effects of organic and mechanistic control in exploratory and exploitative innovations, Management Accounting Research, Volume 25, Issue 1,Pages 93-112, ISSN y1044-5005, https://doi.org/10.1016/j.mar.2013.05.001

8. Appendix

Appendix A: A List of Conducted Interviews

#	Interviewee role, Division	Date	Duration
1	Senior Business Controller, TechDep	11-Oct	1 h 8 min
2	Head of Business Control, TechCo	16-Oct	1 h
3	Senior Manager, ResDiv	16-Oct	1 h 15 min
4	Senior Product Manager, TechCo	16-Oct	1 h 3 min
5	Research Manager, ResDiv	21-Oct	1 h 5 min
6	Senior Business Controller, TechCo	21-Oct	47 min
7	Head of Research Strategy, ResDiv [1]	23-Oct	1 h 5 min
8	Business Controller, Product Area A	30-Oct	55 min
9	Business Controller, Product Area B [1]	05-Nov	21 min
10	Head of Business Control, TechCo	05-Nov	1 h
11	Director of Strategy, TechCo	08-Nov	43 min
12	Senior Business Controller, TechCo	08-Nov	21 min
13	Head of ResDiv	12-Nov	1 h 5 min
14	Head of Technology Strategy, TechDep	14-Nov	50 min
15	Business Controller, Product Area C	19-Nov	57 min
16	Head of Business Control, Product Area C[1]	21-Nov	35 min
17	Manager, Product Area B	21-Nov	30 min
18	Senior Business Controller, TechDep	21-Nov	30 min
	Average duration (minutes)	50 min	
	[1] Conducted over telephone	3	
	Total number of interviews	18	
	Number of unique persons interviewed	15	