Induced and autonomous strategy processes in exploration-exploitation transition

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NORDIC SWAN ECOLABEL

Printed matter
4041-0619

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Name of the doctoral dissertation
Induced and autonomous strategy processes in exploration-exploitation transition

Publisher School of Business

Unit Department of Marketing

Series Aalto University publication series DOCTORAL DISSERTATIONS 102/2020

Field of research Strategic marketing

Date of the defence 26 June 2020

Language English

☒ **Monograph**   ☐ **Article dissertation**   ☐ **Essay dissertation**

Abstract

Positioned in organizational ambidexterity literature, this dissertation investigates how induced and autonomous strategy processes evolve over time in exploration-exploitation transition in a large organization with an established core business. Adopting a process research approach, the empirical part of the dissertation presents a longitudinal case study of people flow solutions development at KONE Corporation over a twelve-year time frame from 2004 to 2015. This time frame is investigated focusing on people flow solutions development activities transitioning from exploratory R&D activities to exploitative business development efforts, while considering the changes that took place in the strategic context of KONE. A historical account is presented including the key phases of the solutions development activities in R&D and business development.

This dissertation found that the structural operationalization of the exploration-exploitation transition was realized by establishing a focus on exploitation in the core organization's business unit with a parallel exploration unit in a specific new development area remaining in the R&D organization. It was also revealed that autonomous activities occurred despite the initiatives being in line with the prevailing strategy of the organization. Autonomous activities were also found to continue after the exploration-exploitation transition had been realized in the operational business.

Based on the findings, a model of induced and autonomous strategy processes in exploration-exploitation transition is proposed. The model presents induced and autonomous strategy processes evolving through temporal cycles through the phases before, during, and after the exploration-exploitation transition. The transition as establishing a parallel focus on exploration and exploitation is presented to occur through the processes of setting the structural and strategic contexts in the induced strategy process as well as through championing in the autonomous strategy process. Specific mechanisms in the induced and autonomous strategy processes were identified based on the empirical phenomena in the case. The mechanisms identified as occurring in the induced strategy process at the top management level included retroactive rationalizing, direct top management strategic intent, and loose coupling. The mechanisms identified as occurring in the autonomous strategy process included loose coupling, network building, and local identity building.

This dissertation thus contributes to the view of ambidexterity as a dynamic phenomenon that unfolds over time, answering the calls for more empirical research on processes related to the development of structural ambidexterity over time as well as on expanding the strategic perspective on ambidexterity to understand longer strategy formation processes.

Keywords ambidexterity, strategy process, exploration, exploitation, transition

Acknowledgements

Contents

List of Abbreviations

AIS   Access and Integrated Solutions

DELI   Door and Elevator Integration (project)

ESA   Event Structure Analysis

FuBu   Future Business in Future Buildings (program)

MWB   Must-Win Battle

NEB   New Equipment Business

NSS   New Services and Solutions

OUI   Optimal User Interface (project)

PFI   People Flow Intelligent (solutions)

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1. Introduction

In order to successfully operate in a dynamic environment, it has been proposed that firms need to effectively align with the demands of the current business, while simultaneously adapting to environmental changes to ensure future existence (Duncan, 1976; Tushman & O'Reilly, 1996). For established firms with long-standing core businesses, advancements in the constantly evolving global landscape can prove particularly challenging. To retain competitiveness, large firms invest in exploration through R&D and innovation initiatives. New product development is considered a central factor for the long-term strategic renewal or organizations (Dougherty, 1992); however, the commercial development of new products, while thriving in the exploitation of the core business, often faces difficulties (Sivadas & Dwyer, 2000; Cooper & Kleinschmidt, 1986). As organizations mature and grow, they cumulate structures, processes, and assets (Huff, Huff & Thomas, 1992; Floyd & Lane, 2000) that support the stable growth of the core business (Burgelman & Sayles, 1986). This organizational context may prove challenging for building new product development initiatives, particularly when these initiatives are not aligned with the existing strategy (Burgelman & Sayles, 1986). The prevailing strategy of the organization influences the type of new product development initiatives which are supported to move to a stage of business development (Burgelman, 1983, 1991). New product development activities that involve initiatives outside of the core business of the organization may account for changing the corporate strategy over time (Burgelman, 1983, 1991; Floyd & Wooldridge, 2000). Therefore, new product development activities contribute to corporate strategy formation through processes that emerge as a result of both induced and autonomous strategic activities in which multiple managerial levels across the organization participate (Burgelman, 1983, 1991; Floyd & Wooldridge, 2000). For instance, from an intraorganizational ecology perspective (Burgelman, 1991, 2002), the various political and social ambitions on multiple managerial levels of large organizations determine which initiatives are selected for further development. Research on internal corporate venturing (e.g., Burgelman, 1983) suggests that the transition of new concepts from R&D to business development requires internal support, an understanding of the capabilities and activities of different parts of the organization, development in the administrative operations, and learning by doing efforts by venture managers.

Structural separation has been widely proposed as the solution to managing the contradictive efforts related to new product development and core business operations (Ansoff & Brandenburg, 1971; Fast, 1979; Lavie, Stettner & Tushman, 2010; Benner & Tushman, 2003). This view of the divisional detachment of new business development and the core business has been most comprehensively studied in the literature on ambidexterity (Lavie et al., 2010; Benner & Tushman, 2003). At the core of the research on ambidexterity lies the question of finding ways to balance the conflicting activities of exploration and exploitation (Tushman & O'Reilly, 1996); exploration referring to the search for new ideas, and exploitation to the utilization of existing core assets (March, 1991). Whereas the physical separation of exploration and exploitation efforts has been characterized by differentiated processes, cultures, and structures for exploration and exploitation (Tushman & O'Reilly, 1996), the contextual view of ambidexterity suggests that the tensions of managing exploration and exploitation are managed through complex behavioral capacities (Gibson & Birkinshaw, 2004).

New product development is considered to require collaboration across marketing, sales, manufacturing, and R&D functions in organizations (Gupta, Raj, & Wilemon, 1986; Dougherty, 1992). Contributions to the activities related to exploration and exploitation have been made in various academic disciplines. In strategic marketing, studies have applied ambidexterity theories from management literature to investigate, for instance, the role of an ambidextrous marketing logic in marketing management (Tollin & Schmidt, 2012) as well as the role of marketing function implementation in an ambidextrous organization's strategy and performance (Sarkees, Hulland & Prescott, 2010). These studies prove that ambidexterity as a theoretical lens can be applied to investigate the roles of multiple organizational functions in various disciplines. Acknowledging these advancements, this dissertation considers the relationship between new product development efforts and the core business as positioned in organizational ambidexterity literature (e.g., Duncan, 1976; Tushman & O'Reilly, 1996) and in strategy process literature (e.g., Mintzberg, 1978; Burgelman, 1983).

It has been claimed that the structural view of ambidexterity provides a static view of managing exploration and exploitation with more dynamic approaches being encouraged. Ambidexterity literature has investigated the temporal aspects of pursuing exploration and exploitation, for instance, by sequentially adopting different organizational structures (Lavie et al., 2010) and reintegrating an exploration structure into an exploitative core organization (Siggelkow & Levinthal, 2003). Despite these advancements, multiple calls have been made for more empirical studies in this specific domain. Raisch, Birkinshaw, Probst and Tushman (2009: 688) note that "in terms of structural ambidexterity, it remains unclear how structurally differentiated units evolve over time" and that "contextual ambidexterity also has a dynamic component that has rarely been addressed" (Raisch et al., 2009: 689), encouraging more research on the dynamic processes underlying exploration and exploitation (Raisch et al., 2009).

As developing an innovation into a new business requires time, potentially as much as ten to twelve years (Biggadike, 1979; Block & MacMillan, 1993), the importance of the transition of innovations from R&D intensive activities to business development efforts cannot be overlooked. Within the discussion on the temporal dynamics of ambidexterity, a stream of research has emerged which investigates the evolution of new development projects over time from an organizational focus from exploration to exploitation (Gassmann, Widenmayer & Zeschky, 2012; Chen & Kannan-Narasimhan, 2015; Hansen, Wicki & Schaltegger, 2019). As the activities related to the formation of the corporate strategy of the organization have a significant influence on the transition of new product development initiatives from exploration to exploitation (Burgelman, 1991), this dissertation adopts the strategic perspective of induced and autonomous strategy processes (Burgelman, 1991, 2002) to examine the exploration-exploitation transition phenomenon over time. As the exploration-exploitation transition is a phenomenon with foundations within the academic discussion in organizational ambidexterity (Raisch et al., 2009; Gassmann et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019), this dissertation is positioned in ambidexterity. Next, the research gaps identified in ambidexterity literature are introduced.

1.1   Research gaps

The following sections present the research gaps identified in ambidexterity literature. First, it was identified that there is a need for more longitudinal, processual research applying a dynamic perspective to ambidexterity. In particular, there is a need to provide more empirical research related to the underlying processes in the transition from exploration to exploitation. The second research gap argues for the need for more strategic perspectives in studying ambidexterity as well as the need to better understand the strategy process formation in exploration-exploitation transition over time.

1.1.1   A longitudinal process approach to exploration-exploitation transition

The literature on ambidexterity is mostly comprised of static accounts of the structural designs and mechanisms that organizations have adopted in organizational designs for exploration and exploitation (Raisch & Tushman, 2016). Until recently, the question of how the exploration and exploitation processes are initiated and how they unfold over time has largely been unanswered with multiple calls being made for more empirical studies adopting a longitudinal process perspective (Raisch & Zimmermann, 2017; Raisch et al., 2009; Lavie et al., 2010; Zimmermann, Raisch, & Birkinshaw, 2015). Considering that the development of an innovation into a new business has been reported to require approximately ten years (Biggadike, 1979; Block & MacMillan, 1993), the calls for more longitudinal approaches seem particularly relevant. Steps have recently been initiated towards a more longitudinal approach in the literatures on strategic management and organizational studies

on ambidexterity. Luger, Raisch and Schimmer (2018) studied the long-term performance outcomes of exploration-exploitation allocations. Zimmermann et al. (2015) studied the ambidexterity initiation processes in the alliance context and raised the process perspective in ambidexterity, encouraging future studies to examine the unfolding of ambidextrous charter processes in different contexts and over long periods of time. In their review of ambidexterity as a paradox, Raisch and Zimmermann (2017: 318) note that "the paradoxical nature of these tensions requires theory that conceptualizes tension management as an ongoing process."

Parallel with the calls for more dynamic and processual approaches to ambidexterity, the literature suggests that the activities related to transitioning from exploration to exploitation at the organizational unit level need more investigation (Raisch et al., 2009; Schad, Lewis, Raisch and Smith, 2016). This transition has recently gained growing interest particularly in the R&D literature on ambidexterity. For instance, Gassman et al. (2012) and Chen and Kannan-Narasimhan (2015) studied various modes of transition as well as the informal and formal integration mechanisms when integrating new ventures units into core business units. Hansen et al. (2019) have most recently added to this R&D literature by adopting a longitudinal process approach and introducing a framework of integration trade offs in the exploration-exploitation transition processes. While these studies on the format and archetypes of integration provide valuable building blocks for the exploration-to-exploitation transition research stream, comprehensive empirical investigations on the underlying processes related to the exploration-exploitation transition remain scarce. Therefore, more longitudinal research employing a processual approach is needed on the development of new initiatives before, during, and after a transition from an organizational focus from exploration to exploitation (Friesl, Garreau & Heracleous, 2019; Raisch et al., 2009).

1.1.2 Linking ambidexterity to strategy processes

Recent longitudinal ambidexterity studies have acknowledged that the temporal dynamics in ambidexterity are closely connected to the formation of corporate strategy (e.g. Friesl et al., 2019; Raisch & Tushman, 2016; Zimmermann et al., 2015). For instance, Zimmermann et al. (2015: 1119) adopted the notion of Burgelman's (1983) autonomous strategic behavior from the strategy process literature to study the initiation of ambidextrous orientation, encouraging future studies to examine the initiation processes of ambidexterity in different contexts and over time. Friesl et al. (2019) connect structural ambidexterity and strategic renewal in their study of the separation and subsequent reintegration of a subsidiary. Raisch and Tushman (2016) adopted a real option theory lens from the strategy literature to study the interactions that evolved between efforts to build new business units and the core organizations, encouraging "future ambidexterity research to expand the strategic perspective on ambidexterity and continue to explore its rich interrelations with the

organizational processes that are traditionally at the heart of prior ambidexterity studies" (Raisch & Tushman, 2016: 1253-1254).

The transition of initiatives from an explorative new product development stage into exploitative commercial business development activities is closely connected to corporate strategy formation (Burgelman 1983, 1991). The processes shaping the strategy of the organization both influence and are influenced by the new initiatives and their progression from exploration to exploitation. These activities occur at the operational, middle, and top management levels of the organization (Burgelman 1983, 1991; Floyd & Wooldridge, 2000). Hence, new initiatives contribute to corporate strategy formation through processes that emerge as a result of activities that derive from both the operational and top management levels (Mintzberg, 1978). Burgelman's (1991, 2002) work on induced and autonomous strategizing has been seminal in connecting strategy literature with the concepts of exploration and exploitation (Zimmermann et al., 2015). Autonomous strategizing occurring bottom-up is linked to exploration, whereas induced strategizing which occurs top-down is related to exploitation (Burgelman, 2002). The organization's capacity to manage these strategy processes influence the transition of explorative initiatives to the exploitation stage (Burgelman 1991, 2002).

In addition to the calls for more strategy perspectives in the ambidexterity literature (Raisch & Tushman, 2016), strategy literature calls for more studies addressing longer processes in studying the various forms of temporal dynamics in strategy work (Burgelman et al., 2018). Together with the calls for more investigation on the organizational unit level activities in the exploration-exploitation transition (Raisch et al., 2009; Schad et al., 2016), this dissertation proposes adopting induced and autonomous strategy processes (Burgelman 1991, 2002) as the strategic perspective to studying the transition from exploration to exploitation, considering the multilayered, simultaneous, interlinked, strategic, and sequential activities that contribute to strategy formation over time (Burgelman, 1983; Bower, 1970; Quinn, 1980).

1.2   Research question

This dissertation aims to address the calls for more empirical research on the processes related to the development of structural ambidexterity over time (Schad et al., 2016; Raisch et al., 2009), on the activities related to transitioning from exploration to exploitation (Friesl et al., 2019; Schad et al., 2016; Raisch et al., 2009), and on expanding the strategic perspective on ambidexterity (Raisch & Tushman, 2016) to understand longer strategy formation processes over time (Burgelman et al., 2018; Jarzabkowski & Seidl, 2008). The purpose of this dissertation is to examine how the transition from exploration to exploitation takes place in a large organization with an established core business, considering the induced and autonomous strategy processes over time. The following research question is proposed:

"How do induced and autonomous strategy processes evolve over time in exploration-exploitation transition in a large organization with an established core business?"

It has been proposed that focusing on a certain strategic project rather than on the strategy process in general allows the documentation and production of data on a concrete and focused level of analysis (Burgelman, 1983; Bower, 1970; Quinn, 1980). Therefore, this dissertation presents an empirical case study on the exploration and exploitation activities focused on the transformation of a strategic project related to new solutions development in a large, industrial corporation with an established core business. The research question is investigated by adopting a process research approach (Pettigrew, 1990; Van de Ven & Poole, 1995), which is concerned with questions on how and why phenomena develop, emerge, or terminate over time (Langley, Smallman, Tsoukas, & Van de Ven, 2013) and views the research context as an inherent part of the phenomenon studied (Pettigrew, 1985). Therefore, the exploration to exploitation transition and related strategy processes are considered in this dissertation as dynamic phenomena that unfold over time. Adopting a longitudinal approach to studying the case allows a careful consideration of the multilayered, sequential, and simultaneous activities that interconnect with the strategy formation process over time (Burgelman, 1983; Bower, 1970; Quinn, 1980).

1.3   Empirical context

The empirical part of this dissertation consists of a longitudinal case study on the transformation of a strategic project related to people flow solutions development at KONE Corporation. Established in 1910, KONE operates in the escalator and elevator industry with operations in more than 60 countries globally. Headquartered in Helsinki with corporate offices in Espoo, Finland, KONE has eight global R&D centers and seven global productions sites. The main R&D center of KONE is located in Hyvinkää, Finland. In addition to elevators, escalators, and automatic building doors, modernization and maintenance services are also a significant part of KONE's business. The case study focuses on the development of people flow solutions at KONE throughout a twelve-year time period from 2004 to 2015. This time frame is investigated focusing on people flow solutions development activities transitioning from exploratory R&D activities to exploitative business development efforts, while considering the changes that took place in the strategic context of KONE.

1.4   Outline

This study is organized as follows. First, Chapter 2 introduces the theoretical background of the study, consisting of organizational ambidexterity and strategy process literatures. Thereafter, the methodological underpinnings are presented in Chapter 3, including the epistemological and ontological

foundations of the study. Chapter 3 also includes a discussion on process research, data collection, and data analysis. After explaining the means by which the empirical study has been conducted, a Historical account of the case study is presented in Chapter 4. Thereafter, Chapter 5 discusses the findings of the study as the basis for drawing the theoretical contributions. Chapter 6 presents the contributions and implications of the research. To conclude, managerial implications are provided in section 6.2, followed by the limitations of the dissertation and suggestions for future research.

2. Theoretical background

This chapter outlines the theoretical background of this dissertation. The main theoretical foundation of this dissertation is organizational ambidexterity, which is introduced first. After this, induced and autonomous strategy processes are presented as the strategic perspective adopted on organizational ambidexterity in this research.

2.1 Organizational ambidexterity

The goal of this section is to introduce the main theoretical underpinnings of organizational ambidexterity, in which this dissertation is theoretically positioned. The section first explains the key concepts and background of ambidexterity research, after which the focus shifts more towards dynamic, transition, and strategic aspects which are related to ambidexterity.

2.1.1 Concept and background

The word ambidexterity originates from Latin 'ambidexter', meaning the use of both hands with equal skill (Oxford Dictionary 2017). The concept of ambidexterity was first introduced by Duncan (1976) in the management literature to describe firms that mastered both innovative activities in the upstream value chain and the implementation activities for efficiency gains in the downstream value chain. The popularity of ambidexterity research began to rise in the management literature after Tushman and O'Reilly (1996) linked the concepts of exploration and exploitation (March, 1991) to the ambidexterity concept. March (1991) linked exploration to various terms, such as innovativeness, search, experimenting, and discovering. Exploitation, on the other hand, was suggested as involving more stable concerns, such as refining or executing previously selected issues (March, 1991). Tushman and O'Reilly (1996) proposed that ambidexterity is achieved by managing radical change with exploration and incremental change with exploitation.

The simultaneous pursuit of both exploration and exploitation has been considered a paradox (Smith & Lewis, 2011; Tushman & O'Reilly, 1996), and it has been claimed that the progress of one side more or less directly influences the other's deterioration (Levinthal & March, 1993). According to Andriopoulos and Lewis (2009), balancing the efforts of exploration and exploitation has been described as the desired outcome. While exploration and exploitation have been

suggested to represent mutually enabling and complementary forces (Raisch et al., 2009), their coexistence and simultaneous pursuit has been argued as being the cause of multiple tensions in the organization, which are challenging to reconcile (Gupta, Smith, & Shalley, 2006). Therefore, it has been proposed that the objective for managers is not to attempt to find a resolution for the contradicting relations of these dual forces, but to acknowledge their independent coexistence and to find coping mechanisms to sustain both over time (Raisch & Zimmerman, 2017).

Ambidexterity can be understood to be an effort which occurs at multiple hierarchical levels in the organization. It has been studied at various levels of analysis, spanning organizational, business unit, team, and individual levels of analysis (Raisch et al., 2009). Interorganizational partnering (Kauppila, 2010) has also been the focus of previous studies. The most common level of analysis in ambidexterity research is the business unit level (e.g., Benner & Tushman, 2003) due to the structural separation of units, which is more carefully described in the next section (2.1.2). At the individual level, managers may engage in both exploratory and exploitative activities (e.g., Mom, van den Bosch & Volberda, 2009). Studies have depicted the challenges faced by individual ambidextrous managers in regard to paradoxical thinking (Gibson & Birkinshaw, 2004; Smith & Tushman, 2005), conflicting goals and managing contradictions (Duncan, 1976; Smith & Tushman, 2005), as well as when adopting multiple roles (Floyd & Lane, 2000). At the team level, top management team contributions are most prominent in the ambidexterity literature on strategic management and organizations (e.g., Jansen, Tempelaar, van den Bosch & Volberda, 2009; Heavey & Simsek, 2017), while other team level accounts of ambidexterity are found in project management and innovation technology journals (e.g., Liu & Leitner, 2012; Rodriguez & Hechanova, 2014; Karhu, Ritala & Viola, 2016). In this dissertation, the focus of analysis is at the level of team activities, also considering individual managers' actions, thus choosing a multi-level approach to investigating ambidexterity.

The following sections will provide an overview of the literature by first addressing structural and contextual ambidexterity, which are the two main approaches to ambidexterity prominent in the literature. Thereafter, the following sections will introduce the cognitive, temporal, and integration aspects of ambidexterity. These aspects of ambidexterity are central to understanding the exploration-exploitation transition in ambidexterity, which is discussed at the end of the chapter together with an overview of literature on ambidexterity and strategy processes.

2.1.2 Structural and contextual ambidexterity

Literature on ambidexterity has widely proposed that the paradox of the simultaneous struggle of exploration and exploitation (March, 1991) should be addressed by separating exploration and exploitation activities into structurally different divisions (Duncan, 1976; Lavie et al., 2010; Benner & Tushman, 2003). This spatial separation has been conceptualized as structural ambidexterity (Gibson & Birkinshaw, 2004), or architectural ambidexterity (Andriopoulos &

Lewis, 2009), implying a dual structure for the organizational architecture, in which exploration efforts are physically separated into one unit, and exploitation activities into another (Tushman & O'Reilly, 1996; Andriopoulos & Lewis, 2009). The benefit of the structural model of ambidexterity has been suggested to be the ability of the respective units to focus on their specific efforts without being distracted by the processes, cultures, and structures of the core organization units (Tushman & O'Reilly, 1996). Drucker (1974) expressed the proposition for such divisional separation in the following way:

> "The search for innovation needs to be organized separately and outside of the ongoing managerial business. Innovative organizations realize that one cannot simultaneously create the new and take care of what one already has. They realize that maintenance of the present business is far too big a task for the people in it to have much time for creating the new, the different business of tomorrow. They also realize that taking care of tomorrow is far too big and difficult a task to be diluted with concern for today. Both tasks have to be done. But they are different. Innovative organizations, therefore, put the new into separate organizational components concerned with the creation of the new." (Drucker, 1974: 799)

The structural separation and recruitment of outsiders with distinct skills strengthens the boundaries between the differentiated units (Raisch & Tushman, 2016; O'Reilly & Tushman, 2008). Raisch and Tushman (2016) note that the distinct skills and local identities that are reinforced through structural separation support exploration activities and guard exploratory units from the inertial influences of the core organization.

Although this structural separation implies that the employees of the unit can focus on their specific activities, it has been argued that top management must occupy the main role of attending to these paradoxical tensions (Jansen et al., 2009). Structural ambidexterity has been criticized in ambidexterity literature, for instance, for its incompatibility with small organizations, which lack hierarchical administrative structures and resources for the structural separation of exploration and exploitation (Lubatkin, Simsek, Ling & Veiga, 2006; Voss & Voss, 2013). Thus, structural separation has been proposed as only being meaningful for large organizations which possess the necessary resources to support the subunit structures. Other criticism has been directed at the inflexibility for allowing individual judgment of ambidextrous behavior mandated by separated units (Gibson & Birkinshaw, 2004).

The concept of contextual ambidexterity was first introduced by Gibson and Birkinshaw (2004), who built on the organizational effectiveness work by Ghoshal and Bartlett (1994). Ghoshal and Bartlett (1994) suggest that successful business unit performance is achieved through a careful selection of processes and systems which provides a suitable context for a flourishing of the capacities needed for alignment and adaptability (Ghoshal & Bartlett, 1994). Thus, achieving contextual ambidexterity is described as occurring through the creation of processes that enable individuals to judge the contradicting demands for alignment and adaptability (Gibson & Birkinshaw, 2004). Alignment refers to collaborative efforts in the business unit in a coherent

manner with a mutual goal, while adaptability refers to the capacities that enable a quick reconfiguration of the business unit's activities in response to the unit's environment. These capacities for adaptability and alignment are dispersed, ambiguous and complex (Gibson & Birkinshaw, 2004). Ambidexterity as a contextual approach is considered to materialize at the level of an employee as a behavioral capacity with social and behavioral means being employed to manage the tension of exploration and exploitation (Andriopoulos & Lewis, 2009). Therefore, in the contextual approach, it is critical to build and sustain a context supportive of employees reaching their individual decisions related to engaging in either alignment or adaptability (Gibson & Birkinshaw, 2004).

2.1.3 Cognitive aspects of ambidexterity

Gibson and Birkinshaw's (2004) definition of contextual ambidexterity links ambidexterity to cognition, as ambidexterity is described as arising from a context that allows individual judgment of the contradicting demands for alignment and adaptability. The cognitive aspects of ambidexterity have increasingly gained interest, particularly in the ambidexterity discussion related to the research stream on paradox tensions. The paradox tension view considers the struggle for exploration and exploitation as a major contradiction (Smith, Erez, Jarvenpaa, Lewis & Tracey, 2017; Calabretta, Gemser & Wijnberg, 2017; Schad et al., 2016) through which managers are seemingly able to switch between paradoxical cognitive frames (Smith & Tushman, 2005). Managerial cognition research suggests that managers aim to retain elements in their existing business, conforming in their strategic actions to cognitive frames that affirm their existing assumptions (Barr, Stimpert, & Huff, 1992). These assumptions may involve aspects related to past business successes, as has also been found in studies related to cognitive dynamics in the transformation processes of corporate business models (Aspara, Lamberg, Laukia & Tikkanen, 2013; Tikkanen, Lamberg, Parvinen, & Kallunki, 2005). In a similar vein, Danneels (2010) notes that managers' conceptualization of the nature and applicability of the resources of the organization can be tied to the endogenous resource base of the firm, accumulated through a decades-long history of decision-making. In the case of Smith Corona's demise, Danneels (2010) depicts how managers' cognitive frames regarding the firm's resources were attached to Smith Corona's strong brand equity and a distorted customer understanding, although the firm's transition from typewriters to computer products was not a straightforward extension and would have required distinct resources. Based on their study of Polaroid's response to the shift from analog to digital imaging, Tripsas and Gavetti (2000) imply that an organization's historical environment influences the development of managers' beliefs, which makes it difficult for managers to adapt their cognitive frames, thus causing organizational inertia (Tripsas & Gavetti, 2000).

2.1.4   A dynamic view of ambidexterity

Traditionally, ambidexterity literature has focused on the organizational designs and arrangements related to exploration and exploitation (Raisch & Birkinshaw, 2008) and on the means by which ambidexterity is enabled and formed (Carmeli & Halevi, 2009). These studies mainly offer static accounts of ambidexterity which examine the organizational arrangements and structures put in place by top managers (Raisch & Tushman, 2016). Managing the processes of exploration and exploitation involves a continuous reconfiguration of activities and orchestration of firm resources (O'Reilly & Tushman, 2008). Over time, this orchestration of resources becomes a dynamic capability (O'Reilly & Tushman, 2008; Siggelkow & Levinthal, 2003), thus highlighting the need for dynamic perspectives on ambidexterity (Raisch et al., 2009). In structural ambidexterity, the development of structurally differentiated units over time is presented, for instance, in Siggelkow and Levinthal's (2003) work, which suggests firms should reintegrate organizational units after temporary differentiation. In contrast, Raisch (2008) found that structurally differentiated units may remain autonomous for decades. Studies on contextual ambidexterity have also suggested the benefits of a process perspective; Raisch et al. (2009: 689) note that "contextual ambidexterity also has a dynamic component that has rarely been addressed".

  Raisch and Tushman (2016) distinguish between contingency, vacillation, and life-cycle approaches in viewing ambidexterity as a dynamic phenomenon. The contingency approach views the changing environmental conditions as the motivator for transitioning between exploration and exploitation (Siggelkow & Levinthal, 2003). For example, Jansen et al. (2006) found that a focus on exploration is more influential in dynamic external conditions, whereas the pursuit for exploitative innovation is more suitable in highly competitive environments. Uotila (2018) found that in turbulent and highly complex environmental conditions, a dynamic type of ambidexterity prevails, which is characterized by local peaks in both exploration and exploitation. In highly turbulent yet less complex environmental settings, Uotila (2018) discovered that punctuated equilibrium is preferable in order to gain ground on environmental demands in the long term (Uotila, 2018).

  The vacillation view considers ambidexterity as the temporal separation of exploration and exploitation, alternating between a structural focus on exploration and a structural focus on exploitation (Raisch & Tushman, 2016). This shifting between exploration and exploitation over time is also known as sequential ambidexterity, presenting an alternative to balancing activities (Lavie et al., 2010; Siggelkow & Levinthal 2003). However, managing exploration and exploitation in sequential ambidexterity is no less challenging than the balancing efforts, as agility from the organization is required when transitioning between the temporal modes (Lavie et al., 2010). This is because path dependency on the prevailing state may develop, and the implementation of shifting to a contradicting activity may require more time and be more costly than expected (Lavie et al., 2010). The basis for managing ambidexterity either as balancing both exploration and exploitation simultaneously or shifting

between the two states has been suggested as being a proactive management decision emphasizing the chosen approach that best optimizes performance in the long-term (Boumgarden, Nickerson, & Zenger, 2012; Lavie et al., 2010).

The life-cycle approach considers the adjustment from an explorative focus to an exploitative one to shift over time as organizations evolve (Lavie & Rosenkopf, 2006; O'Reilly, Harreld & Tushman, 2009). Westerman, McFarlan & Iansiti (2006) uncovered different modes used by firms to adapt to strategic contingencies in the different stages of the innovation's life cycle. Accordingly, these modes of adaptation change over time and are not either completely integrated or autonomous (Westerman et al., 2006). Studies investigating the underlying dynamic processes of ambidexterity with a longitudinal approach remain scarce (Raisch et al., 2009).

2.1.5 Integration in ambidexterity

Pure structural separation has been criticized for being overly isolated and for increasing the costs of coordination between the units (Gibson & Birkinshaw, 2004). Ambidexterity studies have emphasized integration either as being complementary or alternative to the structural model (Raisch et al., 2009), to understand "the processes by which these units are integrated in a value enhancing way" (O'Reilly & Tushman, 2008: 191). In Lawrence and Lorsch's (1967) seminal work, integration is defined as "the process of achieving unity of effort among the various subsystems in the accomplishment of the organization's task." (Lawrence & Lorsch, 1967: 4). Raisch et al. (2009) point out that numerous studies have claimed that top management is responsible for integration across structurally separated divisions (e.g., Tushman & O'Reilly, 1996; Smith & Tushman, 2005).

Integration has since been considered not only as top management's responsibility, but also as something that can be acted on at multiple hierarchical levels (Jansen et al., 2009). Jansen et al. (2009) proposed formal integration mechanisms on lower organizational levels to help separated exploratory and exploitative units to share knowledge while maintaining their differentiated processes. For the top management level, Jansen et al. (2009) suggested informal integration which is established through emergent social relations. Other accounts are found in various studies proving ambidexterity to result from the interactions spanning multiple managerial levels, such as Andriopoulos and Lewis' (2009) work on managing innovation paradoxes and the reinforcing effects of shared responsibility, Groysberg and Lee's (2009) study of the individual level tensions related to exploration and exploitation, Mom et al.'s (2009) work on the ambidextrous characteristics of individual managers, and in Taylor and Helfat's (2009) investigation into the renewal of the core technology base and managerial linking activity. Expanding the focus on linkages outside of the organization, Kauppila (2010) examined the means by which partnering and collaboration facilitate integration and the role of establishing linkages across structurally separated divisions.

Taylor and Helfat (2009) focused on the transition process of an established firm transferring the base of its business from an existing core technology to a

new technology, noting that integrating a new core technology is likely to require more complex activities than compiling relevant organizational functions "together like modular building blocks" (Taylor & Helfat, 2009: 720). Taylor and Helfat (2009) suggest that depending on the new core technology developed some existing assets, which may become obsolete or unveil requirements for reconfiguring or augmentation. For instance, new distribution channels may need to be added, or new third-party technology partnerships established to augment the complementary assets for the transition into a new technology base (Taylor and Helfat, 2009). Therefore, Taylor and Helfat (2009) argue that managerial linkages need to be established in order for the functions to work unitedly.

Taylor and Helfat (2009) define organizational linkages as the communication and coordinating activities carried out by boundary spanners (Taylor & Helfat, 2009). When transitioning to a new technology, organizations need to build new linkages between complementary assets, such as sales and the new technology, and simultaneously retain existing asset linkages (Taylor & Helfat, 2009). The different types of organizational linkages suggested by Taylor and Helfat (2009) occur between organizational functions (intercomplementary linkages), inside a function (intracomplementary linkages) and in between functions (core-complementary linkages), and linkages may also extend outside the organization (Taylor & Helfat, 2009). Taylor and Helfat (2009) note that in situations in which linkages are required, costs occurring from investing both tangible and intangible resources need to be considered. These costs include attention, time, and the managerial efforts required to facilitate linking activities, as well as actions taken to face issues arising from cognitive inertia (Gilbert, 2005). In Taylor and Helfat's (2009) linkage model, middle managers are in a central role since they facilitate the organizational linkages (Taylor & Helfat, 2009). Taylor and Helfat (2009) suggest inter-, intra-, and core-complementary communication and coordinating activities by boundary spanners to connect disparate organizational functions, considering the economic, structural, social and cognitive influences on middle manager linking activity (Taylor & Helfat, 2009).

2.1.6 The exploration-exploitation transition

While ambidexterity literature has increasingly covered the aspect of integration from multiple angles, the longitudinal evolution processes of new development projects or businesses from an organizational focus from exploration to exploitation have received less attention (Raisch & Tushman, 2016; Simsek, Heavey, Veiga & Souder, 2009). Raisch et al. (2009: 698) note that "It can thus be speculated that structurally differentiated units move from a primary orientation on exploration toward a more ambidextrous (or even exploitative) orientation over time. How these changes occur over time remains to be explored." Current ambidexterity literature mainly addresses the transition between the focused states of exploration and exploitation, referred to by Hansen et al. (2019: 486) as the "overall process of reintegration". However, Zimmerman et al. (2015) found that transitioning can also occur

between either of the focused states and an ambidextrous state and encourage future studies to include ambidexterity as a state when investigating transition. In their study of the separation and subsequent reintegration of a subsidiary, Friesl et al. (2019) note that ambidexterity literature lacks an understanding of processual aspects when considering structural ambidexterity as consisting of "both separation as well as the reintegration phases over time" (Friesl et al., 2019: 63).

Based on their simulation study, Siggelkow and Levinthal (2003) found the best long-term performance from structurally separated exploration units being reintegrated into the existing activities of the organization over time, thus sequentially adopting different forms of structures. The reintegration, referring to the structurally separated exploratory unit ultimately being absorbed into the core organization and the institutionalized processes, has been suggested as being a necessary step to move the exploratory development towards commercialization by harnessing the strengths of the core business for commercializing the ideas developed in the exploratory phase (Hansen et al., 2019; Durisin & Todorova, 2012).

Raisch and Tushman (2016) address the exploration-exploitation transition as 'transition to scale' in their longitudinal study of six cases of large companies' new business initiatives. Adopting a real option (Bowman & Hurry, 1993) lens from strategy literature, Raisch and Tushman (2016) studied the interactions that evolved between the new units and the core organizations as the new businesses underwent graduation processes when aiming to reach scale. From the perspective of real option theory, it is due to a state of high uncertainty that the risky nature of exploratory initiatives cannot easily indicate technical and financial forecasts of future feasibility, demand, and other development aspects related to the commercialization efforts of the initiative (Sapienza & Gupta, 1994). This type of uncertainty results in firms being likely to proceed with risk-taking in stages, by first making small investments to evaluate the opportunities for growth. In this way, exercising the option by making a more significant investment can be postponed until more information has been gained (Bowman & Moskowitz, 2001). Raisch and Tushman (2016) found that in successful cases, new units established themselves as autonomous business units, while units failing to scale were absorbed by the parent companies. Raisch and Tushman (2016) also showed that middle managers are in a crucial role in the activities building their units to transition to scale, influencing the senior management's ultimate decision-making about graduation. Raisch and Tushman (2016) note that an independent venture mode may be a more suitable scaling option for new businesses that are more radical as internal support may be difficult to gain.

Recently, a stream of studies on integration specifically related to the exploration to exploitation transition has been established particularly within innovation management and R&D literature (Gassmann et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019). These contributions approach ambidexterity as a dynamic phenomenon unfolding over time (Hansen et al., 2019), and present longitudinal case studies of integration mechanisms and the formats of integration. The first contribution in this stream is by Gassmann et

al. (2012), who examined how seven large manufacturing companies carried out the transfer of radical innovation to the operational divisions through specific transition modes. Gassman et al. (2012) define a transition mode as "the sum of distinct mechanisms and procedures enhancing the transfer and implementation of radical innovation to operational business" (Gassman et al. 2012: 121). The transition mode categories found by the authors include external validating, liaison channeling, showcasing innovation, network building, and integrative innovation planning as the modes of transfer from exploration to exploitation (Gassmann et al., 2012). According to Gassman et al. (2012), external validating refers to the need to seek external parties to validate the radical innovation in terms of technology or market acceptance. Gassman et al. (2012) found that their case of Schindler fit this category, reporting the product managers of Schindler's operational business units to be hesitant in adapting technologies developed by their research unit responsible for radical innovation before customer demand was proven through pilot cases arranged by the research unit. In the Schindler case, Gassman et al. (2012) mention that the radical innovation unit shifted their focus from pure technological feasibility to key customer involvement and piloting together with customers. By validating the demand for the new technologies through pilot cases, the radical innovation unit showcased their ability to take customer needs into consideration (Gassman et al. 2012). While Gassman et al. (2012) conclude that this led to the operational business managers accepting the new technologies and that "All radical technologies used at the high-rise concept elevator were transferred to operational business." (Gassman et al., 2012: 125), their study does not elaborate how the transfer of the new technologies to the operational business occurred.

Gassman et al. (2012) describe liaison channeling as the personal interactions between individuals in informal networks who as boundary spanners are able to promote radical innovation initiatives and influence the decision-making for the initiatives to be transferred to the existing business. The third mode of transfer proposed by Gassman et al. (2012) is showcasing innovation, which refers to the visualizations, storylines, and prototypes that render abstract ideas more comprehensible for non-experts, thus aiming to build legitimacy in the core business organization. The fourth mode of transfer proposed, network-building, is about the building of relationships between the exploratory and exploitative units through social platforms (Gassman et al., 2012). The last mode of transfer proposed by Gassman et al. (2012) is integrative innovation planning, which refers to operational business involvement from the early phases of radical innovation exploration in various forms, for instance, through close collaboration or steering boards. These five transfer modes presented by Gassman et al. (2012) describe the context, conditions, and activities that have influenced the transfer of the respective initiatives to the operating business. However, their work does not further indicate the subsequent steps in the structural operationalization of the exploration-exploitation transition.

Within the R&D management literature, Chen and Kannan-Narasimhan (2015) followed in the stream of studies specifically related to the exploration to

exploitation transition, studying how new venture units developed in structurally separated organizational units were integrated into core business units for new business development. In their case study of nine case companies from various industries, Chen and Kannan-Narasimhan (2015) proposed four formal integration archetypes that are based on the mechanisms of administrative accountability and new venture resource investments. The archetypes varied according to the initiator of the new business development project and the stage of involvement of the business unit. The findings of Chen and Kannan-Narasimhan (2015) propose the mechanism of administrative accountability to refer to the level of ownership and sharing of responsibilities between the new venture and the business units, while the mechanism of new venture resource investment refers to the financial and human resources that business units invest in the new ventures and the associated risks and rewards (Chen & Kannan-Narasimhan, 2015). The first archetype involves the business units' own initiative to begin and manage new business development, while receiving support from corporate venture units in coordinating and providing capabilities to help in developing the venture. In the second archetype, the new venture units initiate new business development yet commit business units early on through resource investments. The third proposed archetype similarly involves a new venture initiative but requires more time to incubate and financially prove their viability, which leads to business unit involvement at a later stage. The fourth archetype is managed by the new venture units from the beginning, yet development is moved to a transitional format once the ventures are sufficiently mature to move from the early incubation stage. In this integration archetype, business units invest resources at a late stage, yet do not impose any administrative control over the new business development activities (Chen & Kannan-Narasimhan, 2015). In line with studies suggesting that top management involvement is central in connecting structures in ambidextrous organizations (Smith & Tushman, 2005; O'Reilly & Tushman, 2007), Chen and Kannan-Narasimhan (2015) found the involvement of advisory boards to be a common structural aspect in the integration in all of their identified integration archetypes. These advisory boards consisted of the executives of the core business units, providing advice and supervising the venture activities (Chen & Kannan-Narasimhan, 2015).

Hansen et al. (2019) adopted a longitudinal process study approach in studying the integration trade-offs in exploration-exploitation transition processes in a medium-sized company. Hansen et al. (2019) define the transition process as covering "(a) linkages in early phases before transfer, (b) the actual transfer from the exploratory unit to the receiving core business unit to (c) the reorganization and related activities necessary after transfer." (Hansen et al., 2019: 492). Their findings of the single case study present six different trade-offs before, during, and after transfer. For instance, the trade-offs related to exploratory-complementary linking were found to involve benefits, such as being able to access the technological expertise of the core units. The risks of exploratory-complementary contamination included for instance employing the traditional marketing and sales practices of the core business units for

explorative projects that would have required novel outlooks of these processes (Hansen et al., 2019). Other identified integration trade-offs included "seeking legitimacy early on vs. frustration at discontinuation of innovation; boundary spanning through job rotation vs. carrying over of old culture; early vs. premature transfer; reorganization vs. capability mutation; and improved access to core business resources vs. resource starvation" (Hansen et al., 2019: 484).

Research on the integration mechanisms especially relevant in the context of the exploration-exploitation transition is still scarce, mainly comprising the aforementioned contributions in the innovation and R&D management literature (Gassmann et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019). In the early phases of transitioning from exploration to exploitation, Hansen et al. (2019) suggest loose coupling mechanisms are used to reach across separated units to deepen knowledge flows while retaining differentiated processes (Jansen et al., 2009). Examples of such loose coupling mechanisms are, for instance, the use of advisory boards in R&D with board members across functions (Gassman et al., 2012). Hansen et al. (2019) refer to these loose coupling mechanisms as linking mechanisms, to differentiate mechanisms between the temporal dimensions before transition and during transition. Hansen et al. (2019) note that during transition, a mechanism is needed with stronger involvement of the core business units, referring to the actions at these later stages of integration as reintegration mechanisms.

2.1.7   Ambidexterity and strategy process

This section introduces ambidexterity studies that have been explicitly studied with a perspective from the strategy literature. Related to corporate vision and strategy, O'Reilly and Tushman (2008) suggest that top management's unity of purpose sends a clear message to the organization that is balancing with exploration and exploitation efforts. Therefore, it is proposed that it is essential for top management to agree on the importance of both exploration and exploitation as well as to share a united view of the vision and strategy (O'Reilly and Tushman, 2008).

In the previous section on ambidexterity and transition, Raisch and Tushman's (2016) study on the real option theory lens in ambidexterity was introduced. Raisch and Tushman (2016) note that while their strategic lens provides a deeper outlook on the economic issues related to scaling up initiatives than that considered by prevailing ambidexterity literature, the complexities present between the main organization and the exploratory units still need further investigation and encourage "future ambidexterity research to expand the strategic perspective on ambidexterity and continue to explore its rich interrelations with the organizational processes that are traditionally at the heart of prior ambidexterity studies" (Raisch & Tushman, 2016: 1253-1254).

In the ambidexterity literature, Raisch and Birkinshaw (2008) acknowledge that Burgelman's (1991, 2002) work on induced and autonomous strategizing has been seminal in connecting strategy literature with the concepts of exploration and exploitation. Burgelman's (2002) article on co-evolutionary

lock-in viewed exploration and exploitation through the lenses of autonomous and induced strategy processes. The autonomous bottom-up strategy process is linked to exploration, and the top-down induced strategy process to exploitation (Burgelman, 2002). The organization's capacity to activate the strategic context determination process to transition explorative initiatives to exploitation (Burgelman, 1983) is key in balancing exploration and exploitation as well as in complementing the structural arrangements of the organization (Burgelman, 2002). Burgelman's (2002) work highlights that through strategic context determination processes, links are created between the explorative efforts and the strategy of the organization. The foundations of strategy process theories are laid out in more detail in the following Section 2.2.

In their study on the initiation of an ambidextrous orientation, Zimmermann et al. (2015) studied four strategic alliances of a company operating in the automotive manufacturing industry over a ten-year period. Zimmermann et al. (2015) use the concept of charter to describe the shared understanding between corporate and business unit managers on unit responsibilities and future aspirations. Zimmermann et al. (2015) name the charter definition process as the patterns of actions of the organizational unit managers and their superiors, which then proceeds to adopting the ambidextrous charter. Adopting either a mandated or an emergent process, the proceeding pattern of actions to achieve and maintain an ambidextrous orientation is called the charter execution process. Zimmermann et al. (2015) specifically focused on the emergent charter definition process and the tensions across hierarchical levels regarding the assignment of either explorative or exploitative charter for the frontline unit as well as the frontline unit's realization of an ambidextrous charter. Their findings suggest that the dissonance between the frontline managers' beliefs in pursuing an ambidextrous charter and the senior executives' assigned charter for the unit can be resolved through two forms of relational initiatives. In line with Das and Teng (2001), the first form is horizontal identity-building, which tackles the lack of trust by engaging in different ways of socialization behavior. The other form relates to vertical negotiations that relive political tensions through informal sensemaking as well as developing initiatives to aid senior executives in understanding the need for change, and subsequently establishing more formal processes to influence adaptations to the formal governance in order to gradually shift the orientation of the unit to that of an ambidextrous orientation (Zimmermann et al., 2015).

In addition to their findings on the relational initiatives that can resolve the dissonance between the frontline managers' beliefs in pursuing an ambidextrous charter and the senior executives' assigned charter, Zimmermann et al. (2015) note that their findings contribute to strategy process literature, particularly in Burgelman's (1983) notion of autonomous strategic behavior. Zimmermann et al. (2015) note that the ambidexterity literature often emphasizes ambidextrous orientation to be driven top-down through the sensemaking, strategic intent development, implementation, and delegation efforts of senior executives. Zimmermann et al. (2015) argue that such a view is limited, referring to Birkinshaw's (1997) study to address that research has

widely indicated organizational change to take place also through the inflow of initiatives from the frontline managers. Therefore, Zimmermann et al. (2015) suggest a process perspective on ambidexterity which considers the initiation of ambidexterity to be possible both through top-down (mandated) and bottom-up (emergent) processes. Zimmermann et al. (2015) found the emergence of ambidexterity to be mutually influenced by both relational and formal mechanisms, suggesting that Burgelman's (1983) original concept of autonomous strategic behavior can involve both exploitative activities in addition to exploration. Zimmermann et al. (2015) suggest that future research should examine how such processes evolve in different contexts and over longer time periods.

Khanagha, Volberda and Oshri (2014) connect ambidexterity and strategy formation in their longitudinal case single case study of a telecommunications company transforming its business model from a combination of products and services into a stronger focus on services through cloud computing. Khanagha et al. (2014) examined strategy formation and the effects of newly implemented structural changes after a corporate-level decision to change the business model. Khanagha et al. (2014) found that an iteration of separated and integrated structural arrangements over time enabled a collective learning process that fed strategy formation to move towards transforming the business model. This iteration included phases of experimentation and learning regarding the new disruptive business mode, which influenced strategy formation as an emergent process (Khanagha et al., 2014).

Friesl et al. (2019) connect structural ambidexterity and strategic renewal in their study of the separation and subsequent reintegration of a subsidiary in their longitudinal single-case study of a real estate company over a 12-year time period. In their study, the parent organization began to gradually imitate the subsidiary's differing strategy, which Friesl et al. (2019) call 'proximate isomorphism'. Friesl et al. (2019) propose proximate isomorphism to operate through the mechanisms of governance changes and vicarious learning. The former refers to top management's increasing support of the exploratory unit's strategy, while the latter refers to attempting to learn and implement the exploratory unit's activities by observing from a distance. This imitation also led the parent company to both aligning the mission statement and logo with the subsidiary's as well as to the subsidiary and the parent firm ultimately competing against each other for projects (Friesl et al., 2019). Friesl et al. (2019) propose that the parent company was able to achieve strategic renewal by merging the strategies of the parent firm and the subsidiary, by reintegrating the subsidiary's activities into the parent organization, by depersonalizing the new strategy from the subsidiary's legacy, and by appropriating the legitimacy of the subsidiary by the parent company. Friesl et al. (2019) note that by introducing the concept of proximate isomorphism, their study contributes to the discussion of corporate level strategic renewal by depicting how breaking from path dependency by the core organization may transform the organization's strategy. Breaking path dependency in one part of an

organization may be caused by exploration activities in another part (Friesl et al., 2019; Raisch, 2008).

To summarize, recent literature has significantly added to the stream of research focusing on the dynamics between ambidexterity and strategy (Raisch & Tushman, 2016; Zimmerman et al., 2015; Khanagha et al., 2014; Friesl et al., 2019). Although these perspectives from the strategy literature have been adopted in studying ambidexterity, more research is needed on the patterns of actions between the exploration-exploitation transition and strategy formulation over time. Khanagha et al. (2014) provided an overview of the connections which exist between strategy formation and structural ambidexterity, yet their study mainly describes the strategic intent of the examined phases and does not reveal in detail the underlying processes of strategy formulation. Zimmerman et al. (2015) showed the means by which autonomous strategic behavior can involve exploitative activities; however, their study did not consider the connections with the organization's strategy processes over time. Friesl et al. (2019) depicted the influence of the explorative unit on the transformation of the corporate strategy over time, yet their study neglected to describe the underlying induced and emergent strategy processes. Therefore, more detailed empirical accounts that describe the induced and autonomous strategy processes are needed in ambidexterity literature in the context of exploration-exploitation transition.

2.2 Strategy process

This section presents Burgelman's (1991, 2002) induced and autonomous strategy processes as the strategic perspective applied in studying the exploration-exploitation transition in this dissertation. This processual approach provides the opportunity to consider the multilayered, sequential, and simultaneous activities that interconnect with the strategy formation processes over time (Burgelman, 1983; Bower, 1970; Quinn, 1980). This section introduces the antecedents, main concepts, and theories related to strategy process research.

2.2.1 Background of the strategy field

The origins of the strategic management field date back to the early 1900s, when a course of business policy was first taught at Harvard Business School in 1912 (Bower, 2008). Addressing the reasons behind companies performing differently in the same industry, Kenneth Andrews (1971) first formulated corporate strategy as a research question in his study of the Swiss watch industry, in which he defined corporate strategy as the decision pattern for defining a company's goals and the plans by which to achieve those goals (Andrews, 1971). This view was novel at the time, since micro-economic theory saw no other option other than it being a random error whether dissimilar companies would succeed or similar companies fail (Bower, 1970). Influenced by the inception of the Strategic Management Journal in 1980, the titles of business policy courses were changed into 'strategy' or 'strategic management'

(Bower, 2008). Particularly since the 1980s, literature on strategic management has rapidly grown (Mintzberg, Ahlstrand & Lampel, 1998).

Strategic management literature has its roots in distinct schools of thought, which have been categorized into prescriptive and descriptive schools of thought (Mintzberg et al., 1998). Mintzberg et al.'s (1998) work 'Strategy Safari' provides an overview of the strategy field, identifying ten major schools of thought, each embodying a unique perspective that concentrates on one significant aspect of the strategy-making process (Mintzberg et al., 1998). The design, planning, and positioning schools of thought are prescriptive in nature, addressing the ways that strategies should be formulated. Dominating the strategic management field during the 1980s, Porter's (2008) five forces model in the positioning school was based on economics, thus presenting strategy as an analytical exercise (Minztberg et al., 1998). The descriptive entrepreneurial, cognitive, learning, power, cultural, and environmental schools of thought are less concerned with the content of strategy instead addressing the formation processes of strategies in organizations. The configurational school describes strategy-making as a process of transformation, including clustering various strategy elements into distinct phases. Many of these schools of thought share certain theoretical underpinnings and have been inflected by disciplines outside strategy (Mintzberg et al., 1998). Recently, another school of thought has emerged as the strategy as practice (Whittington, 2006) view has gained prominence. Strategy as practice bases arguments on social theory, arguing that strategy is not something owned by organizations, but something people do (Whittington, 2006).

The strategic management field has traditionally distinguished between "the content-oriented rational choice class and the process-centered learning class" (Gavetti & Rivkin, 2007: 422). Chakravarthy and Doz (1992) proposed that strategy content and process research differ in at least three respects: disciplinary base, methodology, and focus. Strategy content is focused on competitive advantage and strategic positions, whereas strategy process is more concerned with strategic decision-making and implementation (Chakravarthy & Doz, 1992). The content-oriented rational choice model considers strategy implementation as following strategy formulation (Mintzberg et al., 1998). The criticism towards the rational view of strategy involve claims that it provides an ahistorical and acontextual account of strategy (Ocasio, 1997). Strategy process research focuses less on organizational performance and strategic outcomes in competitive terms (Maritan, 2007), and more often on describing the path and pace of strategic change (Barnett & Burgelman, 1996). Maritan (2007: 42) notes that "to the extent that the focus of process research has been on outcomes, the concern has been more on relating process characteristics to the quality of process outcomes". Other key aspects of strategy process research include managerial decisions, action, mechanisms, temporality, and managerial behavior (Maritan, 2007).

Strategy process researchers, such as Bower (1970), Mintzberg (1978), and Burgelman (1983), have aimed at understanding both content as well as process views, adopting a dynamic view on the content issues of strategy. The

foundational process research by Pettigrew (1992) also pointed to the further understanding that could be built by examining static content topics longitudinally over time. In their review of the history of strategy-making research, Burgelman et al. (2018) note that the content-process distinction is not regarded as being relevant in current strategic management literature and that a process view may benefit all strategy themes.

2.2.2 Modes of strategy processes

Research on strategy processes has been enriched with multiple frameworks and concepts at various levels of analysis (Hutzschenreuter & Kleindienst, 2006), reviewed, for instance, by Huff and Reger (1987), Hart (1992), Hutzschenreuter and Kleindienst (2006), and Burgelman et al. (2018). There is no single approach characterizing strategy process research, rather the field is abundant with perspectives. Hart's (1992) categorizations of strategy-making processes include command, symbolic, rational, transactive, and generative categories (see Table 1). Strategy-making in the command mode involves strict top management strategy design and implementation, the symbolic mode denotes strategy-making by leading with an inspirational future vision, the rational mode involves the execution of a formally planned analytical strategy, the transactive mode is about top management facilitating organizational members with an interactive strategy formation process, and the generative mode includes top management designing strategy according to bottom-up emergent initiatives (Hart, 1992).

Table 1. An integrative framework for strategy-making processes (Hart, 1992: 334)

Descriptors	Command	Symbolic	Rational	Transactive	Generative
Style	*Imperial* Strategy driven by leader or small top team	*Cultural* Strategy driven by mission and a vision of the future	*Analytical* Strategy driven by formal structure and planning systems	*Procedural* Strategy driven by internal process and mutual adjustment	*Organic* Strategy driven by organizational actors' initiative
Role of top management	*Commander* Provide direction	*Coach* Motivate and inspire	*Boss* Evaluate and control	*Facilitator* Empower and enable	*Sponsor* Endorse and support
Role of organizational members	*Soldier* Obey orders	*Player* Respond to challenge	*Subordinate* Follow the system	*Participant* Learn and improve	*Entrepreneur* Experiment and take risks

Applying Hart's (1992) framework, but not considering the modes as mutually exclusive, Hart and Banbury (1994) further studied firms in various stages of development and concluded that firms that simultaneously use multiple modes of strategy-making processes outperform single-mode firms and firms that are incapable of combining multiple modes. Another thorough review of strategy process research has been provided by Hutzschenreuter and Kleindienst (2006), who identified relevant factors in the strategy process field related to the categories of antecedents, processes, and outcomes. Factors relevant in the antecedent category involved environmental and strategic contexts, static and dynamic organizational features, and organizational performance. The outcome category proposed by Hutzschenreuter and Kleindienst (2006) includes these

same factors, except for the environmental context. The strategy process category is identified by factors related to the strategist, the strategic issue, and the action sequence (Hutzschenreuter & Kleindienst, 2006). Hutzschenreuter and Kleindienst (2006) note that studies in the latter category have been able to provide insights on the ways strategic change actually occur over time and have proven causality to be a complex phenomenon. Methodologically, Hutzschenreuter and Kleindienst (2006) argue that such complexity means that hypothesis-testing approaches are inappropriate for investigating the unfolding of strategy processes in organizational contexts as pointing out specific causes and effects in such research settings is particularly challenging. Instead, Hutzschenreuter and Kleindienst (2006) suggest longitudinal investigations examining patterns in such dynamic studies involving, for instance, the use of case histories and ethnography.

In a strategy process themed Special Issue of the Strategic Management Journal, Burgelman et al. (2018) reviewed the advances of the strategy process and strategy as practice research between 1992-2006. Burgelman et al. (2018) identified seven main categories in the history of strategy process studies and proposed that the strategy as practice (SAP) approach would provide complementary insights to the strategy process research arena. For this purpose, Burgelman et al. (2018) developed a combinatory model of Strategy as Process and Practice (SAPP). Extending Mintzberg's (1978) emergent strategy model with the strategizing episodes concept from SAP research, this conceptual framework portrays that in the long term, the realized strategy is undergoing constant change, influenced by the induced and autonomous strategic process until another realized strategy emerges (Mintzberg, 1978; Burgelman, 1983). The framework "recognizes the evolutionary nature of strategy and the temporal recursiveness related to it as the realized strategies of the past feed into the strategizing episodes in the present." (Burgelman et al., 2018: 541).

2.2.3   Strategy as an emergent process

In Mintzberg et al.'s (1998) categorization, the view of strategy as a process is positioned under the descriptive learning school of thought (Minztberg et al., 1998). The roots of the learning school of thought date back to Charles Lindblom's (1959) article "The science of muddling through", published in the Administrative Science Quarterly in 1959. Lindblom's (1959) thoughts turned most of the basic assumptions of rational policy-making upside down. Unlike a controllable, orderly and neat process, Lindblom (1959) presented policy-making as a messy process in a complicated world. Further literature followed, leading the learning school to emerge as a prominent research stream in strategic management (Mintzberg et al., 1998). Unlike the prescriptive schools of thought that view strategy as a rational plan, the learning school views strategy as an emergent process formed through a pattern of actions taking place over time. By addressing questions of "how", the main premise in the learning school is about the forming, rather than formulation, of strategies (Mintzberg et al., 1998). The learning school set a debate in the strategy

literature by posing the following types of questions: Who really is the producer of strategy and where in the organization does the formation of strategy occur? How conscious and deliberate can the process actually be? Can formulation and implementation ever be presented within the same process? (Mintzberg et al., 1998).

The foundational influences underlying Mintzberg's (1978) work on emergent strategy can be traced back to research carried out at the Carnegie Mellon University, with central studies contributed by Simon (1947), March and Simon (1958) and Cyert and March (1963). A defining commitment of the behavioral Carnegie school is a decision-centered view of organizations (Gavetti, Levinthal & Ocasio, 2007). These behavioral studies suggested that strategic initiatives emerge from the managerial activities of middle and frontline managers (Noda & Bower, 1996). One of the core tenets of the Carnegie school is Simon's (1947) classic notion of bounded rationality, which is based on the idea that managers can never fully know all the information in a complex world that influences the grounds for their decision-making. Bounded rationality assumes that individuals are limited in their ability to process information, affected by temporal and cognitive limitations. Therefore, managers form simplified representations of the world in order to process information (Simon, 1947). Many of the early policy-making models, such as the muddling through model by Lindblom (1959), considered cognitive aspects founded on the notion of bounded rationality (Simon, 1947).

Inspired by the Carnegie school and particularly Simon's (1957) notion of strategy as a series of decisions that over time influences behavior (Mintzberg, 2007), Mintzberg (1978) proposed that studying strategy requires a tracing of actions. Mintzberg (1978) viewed strategy as a pattern in a stream of decisions and suggested that decisions can be traced by studying streams of actions. Once actions have been tracked down, it is possible to examine the origins and the underlying influences affecting the decision-making process (Mintzberg, 1978, 2007). Studying these streams of action eventually contributes to the realized strategy (Mintzberg, 2007), which is the product of both deliberate and emergent strategies (Mintzberg, 1978). This is the main tenet in Mintzberg's (1978) foundational model of emergent strategy (Figure 1).
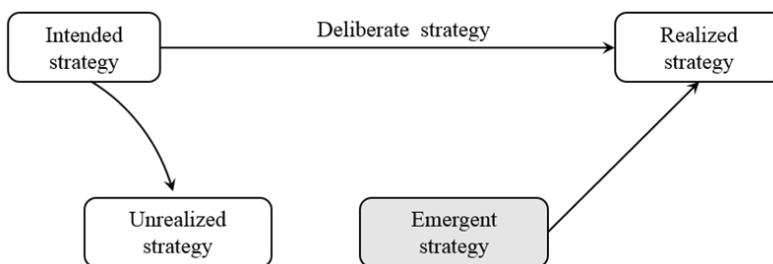
Figure 1. Mintzberg's emergent strategy model (Mintzberg, 1978: 945)

In Mintzberg's (1978) model, intended strategy is deliberately formulated before action takes place, leading to a deliberate strategy process when the plans

are realized through actions, or to an unrealized strategy when plans are not realized. Unlike the control-oriented induced and deliberate strategies, emergent strategy contributes to realized strategy projects through learning (Mintzberg, 2007). As Mintzberg (2007: 5) notes about emergent strategy: "It suggests that anyone, so-called formulators and implementers alike, can learn their way into strategies - action by action, perhaps also decision by decision. Indeed, strategies can form without people even realizing it, although they recognize these strategies once they have formed."

2.2.4 Antecedents of induced and autonomous strategy processes

Relating centrally to strategy formation, one of the most active strategy process research streams is organizations as internal ecologies of strategic initiatives (Burgelman et al., 2018). Particularly prevalent has been the evolutionary view and Burgelman's work on internal corporate venturing (Burgelman, 1983), intraorganizational ecology (Burgelman 1991), and on induced and autonomous strategizing (Burgelman, 1991, 2002). This section positions induced and autonomous strategy processes (Burgelman, 1991, 2002) in evolutionary theory (Campbell, 1969; Aldrich, 1979; Weick, 1979). Before introducing evolutionary theory, three other process theories of change are presented which underlie strategy studies in management and organization literature. In management research, the categorization by Van de Ven and Poole (1995) has been widely accepted as a metatheory of process theories (Floyd & Wooldridge, 2000; Sminia, 2009). Van de Ven and Poole's (1995) typology of life-cycle, dialectical, teleology, and evolutionary theories apply to change processes of different types of organizational entities. Within this typology, strategy is considered a type of organizational entity, and change is defined as the differences observed empirically in the entity's characteristics, state or form over time. Furthermore, a process is defined "as the progression (i.e., the order and sequence) of events in an organizational entity's existence over time" (Van de Ven & Poole, 1995: 512), and development as the unfolding of change events from an organizational entity's emergence to its termination. Process theories explain why and how the changes and development occur for an organizational entity (Van de Ven & Poole, 1995).

  Life-cycle theory assumes that an internal logic governs the change of an organizational entity through distinct stages of progression (Sminia, 2009; Van de Ven and Poole, 1995). According to Van de Ven and Poole (1995), management and organization research, for instance, on new venture development (e.g., Burgelman & Sayles, 1986), follow life-cycle theory. In dialectical theories, change is driven by forces of conflict, synthesis, and confrontation through collective action by coalitions or groups (Sminia, 2009; Floyd & Wooldridge, 2000). Sminia (2009) suggests Pettigrew's (1985, 1990, 1992) contextualist approach to be a dialectical theory which is based on the application of a structuration-like theory (Sminia, 2009). Teleological change theories, on the other hand, refer to discrete entities engaging in setting and implementing goals that are socially constructed (Van de Ven & Poole, 1995). By adopting a teleological view, it is suggested that deliberate order-inducing

mechanisms could be incorporated into the strategic change process (Floyd & Wooldridge, 2000). Van de Ven and Poole (1995) mention March and Simon's (1958) decision-making theory and many of the strategic planning studies (e.g., (Chakravarthy & Lorange, 1991) as being based on teleological assumptions.

The evolutionary process theory as proposed is based on the assumption that an external pressure causes change (Sminia, 2009), proceeding though the processes of variation, selection, and retention (Campbell, 1969; Aldrich, 1979; Weick, 1979). Variations in organizational forms are related changes from existing practices, which emerge either randomly or intentionally and may take place among and within organizations. Selection relates to the external or internal forces eliminating or amplifying realized variations (Campbell, 1969; Aldrich, 1979). Internal selection transpires through organizational processes, such as resource allocation and the influence of top management, while external selection processes include the competitive and institutional environment as well as market forces (Burgelman, 1991). Retention is concerned with reserving selected variations (Campbell, 1969; Aldrich, 1979).

Burgelman's (1983, 1991) internal ecology model of strategy-making builds on the processes of variation-selection-retention in evolutionary theory (Aldrich, 1979). The research stream of organizations as internal ecologies can be traced to Bower's (1970) study on the resource allocation process (RAP) model, which describes the ways by which investment initiatives emerge and different managerial levels influence the decision-making process. Bower's (1970) RAP model operates through the processes of definition, impetus and structural context. Definition is the process in which investment initiatives emerge and the basic economic and technical characteristics of the investment are determined. Secondly, the impetus process is the force that shifts an initiative towards funding by middle managers being willing to sponsor the initiative for the approval for senior management. Structural context is embodied in the formal administrative and organizational structures of the firm, through which top managers can indirectly impose their influence on the resource allocation process (Bower, 1970). These processes draw from both the behavioral Carnegie school (March & Simon, 1958; Cyert & March, 1963), as well as from the Harvard top-down administrative perspective (Chandler, 1962; Learned, Christensen, Andrews & Guth, 1965; Andrews, 1971).

2.2.5 Induced and autonomous strategy processes

Extending Bower's (1970) RAP model in his study on internal corporate venturing, Burgelman (1983) introduced the concept of strategic context determination. Strategic context determination is a political process in which middle managers champion for new fields of businesses to receive acceptance from senior management, thus being able to influence the future fields of businesses in which the company invests (Bower, 1970; Burgelman, 1983). Top management decision-making in the strategic context determination process is realized through retroactive rationalizing, which refers to top management retroactively either rejecting or rationalizing initiatives brought forward by middle managers (Burgelman, 1983). Based on the concept of strategic context

determination and the variation-selection-retention tenets in evolutionary theory (Aldrich, 1979), Burgelman (1983, 1991) further proposed an internal ecology model of strategy-making. In this model, strategic initiatives emerge within the definition process in which they are determined (variation), are then selected out and sponsored by middle managers in the impetus process (selection), and lead to the change or refinement of the structural context (retention) (Burgelman, 1991). Thus, the company can be viewed as an ecology of strategic initiatives that emerge as a pattern and compete for scarce resources in order to increase their relative significance within the company (Burgelman, 1991).

In the internal ecology view, strategy formation is created through enabling internal variation to generate strategic initiatives that are selected to be included in the current strategy (Burgelman, 1991). The types of strategic initiatives that are picked in the selection process are central in this view. Induced initiatives conform to the current strategy, whereas autonomous initiatives emerge outside of the scope of the current strategy. Thus, autonomous initiatives include the potential to change the strategic direction of the organization (Burgelman, 1991; 2002). Top managers hold a key role in recognizing the need for strategic change, and influence strategy formation by facilitating the structural and strategic context of the firm in a way that enables the activation of autonomous initiatives (Burgelman, 1991; 2002).

Burgelman (1983) proposes three sets of activities that arise when transferring a project from an entrepreneurial venture to the business development division in the firm. Strategic forcing refers to activities that strive to grow the new business by enforcing sales in the short term. When successful, this leads to increased support from top management and other involved parties in the organization. Burgelman (1983) notes that strategic neglect might follow these efforts if only a fast-growth performance is sought and the administrative development of the business lags behind. This refers to issues in the operating efficiency and functional tasks of the new business organization that become particularly apparent when the sold product lifecycle develops and requires attention in the administrative environment (Burgelman, 1983). Strategic building refers to the activities performed at the business development management level, which focus on understanding and re-assessing the business opportunity and implementing a broader strategy for the new business. This is guided by learning-by-doing experiences gained from evaluating the strategic forcing efforts by venture managers and may also include acquiring additional new businesses to support the strategy implementation. Strategic neglect can also be present in strategic building activities as administrative problems can arise when business development managers direct excess attention to growing their business through acquiring, while simultaneously neglecting the attention needed for venture manage guidance (Burgelman, 1983).

Connecting exploration with bottom-up autonomous strategizing and exploitation with top-down induced strategizing, Burgelman's (2002) research on co-evolutionary lock-in builds on his 1983 work on strategic context determination (Burgelman, 1983). Activating strategic context determination

process to transition explorative initiatives to exploitation (Burgelman, 1983) is central to balancing exploration and exploitation as well as complementing the structural arrangements of the organization (Burgelman, 2002). Therefore, the strategic context determination process is the necessary link in the means by which explorative efforts influence strategy formation over time (Burgelman, 2002). In organizations with a well-performing core business, the study suggests co-evolutionary lock-in as a source of strategic inertia may be generated when top management receives continuous positive feedback from the well-performing core business, consequently maintaining resource allocations in the existing business areas. This may impede renewal in the long term if a cycle of resource allocation ties the strategic direction of the organization to the existing product-market environment (Burgelman, 2002).

Mirabeau and Maguire (2014) extend Mintzberg's (1978) emergent strategy framework with Burgelman's (1991) concept of induced and autonomous behavior. Recent studies in strategic management have aimed at extending Mintzberg's (1978) emergent strategy framework. Mirabeau and Maguire (2014) studied emergent strategy formation in a large telecommunications company over a ten-year period and found that some autonomous strategic behavior disappeared during the process, naming this strategic behavior ephemeral. The reasons for ephemeral behavior can be, for instance, accounting practices which are not aligned to support projects outside of the prevailing strategy. Gaining legitimacy for induced projects is easier as they are in line with the prevailing strategy (Burgelman, 2002; Mirabeau & Maguire, 2014). Discursive work that involves stretching and creating new associations between concepts can help in legitimating autonomous projects (Mirabeau & Maguire, 2014; Maguire & Hardy, 2013). Figure 2 below portrays Mirabeau and Maguire's (2014) model of strategy formation relating autonomous strategic behavior and emergent strategy, which combines the Bower-Burgelman model (Bower, 1970; Burgelman, 1983) with Mintzberg's (1978) emergent strategy framework.
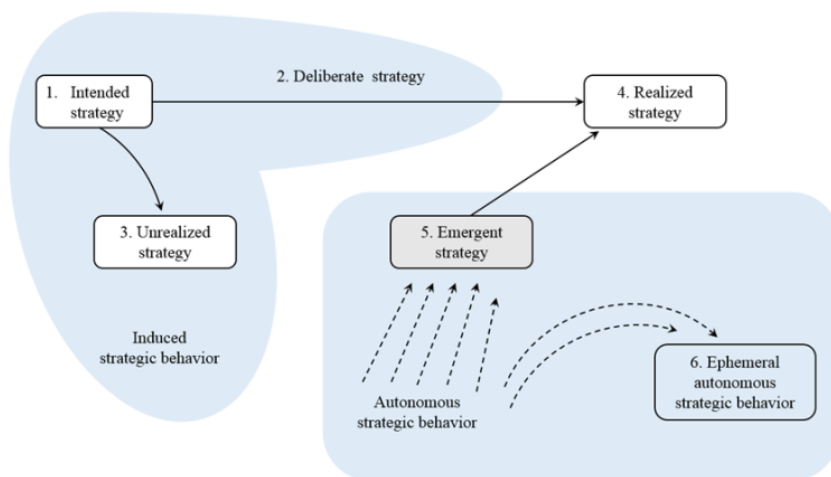
Figure 2. Model of strategy formation relating autonomous strategic behavior and emergent strategy (Mirabeau & Maguire, 2014: 1227)

This model introduces ephemeral autonomous strategic behavior, which points to autonomous projects that did not pass through to the emergent strategy process yet were selected out through intraorganizational processes (Mirabeau & Maguire, 2014). Recently, Mirabeau, Maguire, and Hardy (2018) proposed a methodology to study all the manifestations of strategy, including ephemeral strategy-making. The three-stage methodology involves operationalizing strategy concepts, tracking intended strategy, focusing on tracking strategic projects, identifying realized strategy, and distinguishing projects from induced and autonomous strategy processes (Mirabeau et al., 2018). This method enables researchers to systematically track all the different strategy-making processes and to point to the complex interrelations between the processes (Mirabeau et al., 2018).

2.2.6 Criticism towards the internal ecology view

The evolutionary approach to strategic change has also been challenged and the adequacy of Burgelman's (1991) internal ecology model to account for strategic change has been debated in strategy literature. Arguing against the sole reliance on evolutionary theory, Floyd and Wooldridge (2000) suggest that Burgelman's (1991) intraorganizational ecological model overemphasizes variation as the focal factor in strategic renewal. According to Floyd and Wooldridge (2000), the weakness of a purely evolutional approach is that without sufficient variety among strategic initiatives, there is no possibility of strategic renewal. Thus, Floyd and Wooldridge (2000) claim that Burgelman's (1991) model does not consider the entire range of interdependencies that characterize strategic change.

Although Floyd and Wooldridge (2000) agree that the evolutionary view is suitable for explaining the relationship between strategic renewal and the generation of ideas, they suggest Burgelman's (1991) model would benefit from integrating the evolutionary view with dialectical and teleological theories of organizational change as identified by Van de Ven and Poole (1995). In dialectical theories, change is driven by forces of conflict, synthesis, and confrontation through collective action by coalitions or groups. Incorporating this approach would complement the strategic change process in terms of turning ideas into initiatives (Floyd & Wooldridge, 2000). On the other hand, teleological change theories refer to discrete entities engaging in setting and implementing goals that are socially constructed (Van de Ven & Poole, 1995). Adopting a teleological view would incorporate deliberate order-inducing mechanisms into the strategic change process (Floyd & Wooldridge, 2000).

When considering complementing evolutionary theory with other theoretical approaches, Floyd and Wooldridge (2000) refer to Van de Ven and Poole's (1995) notion that evolutionary and teleological theories of change are combined in Tushman and Romanelli's (1985) punctuated equilibrium model in which evolutionary and teleological theories of change alternate in cycles throughout a long-term change process. Evolutionary processes of competitive selection operate during periods of convergence, and teleological change occurs through reorientations that include top management transforming the

organization's structure, power, and strategies in order to align with executives' purposive actions (Tushman & Romanelli, 1985). This reorientation phase in Tushman and Romanelli's (1985) model resembles a top-down top management influence on the strategy process, in Burgelman's (1991) internal ecology model is indirect. The indirect role of senior management has been argued to present an ambiguous and limited role of top management influence (Lovas & Ghoshal, 2000; Canales, 2015). According to Lovas and Ghoshal (2000), evolutionary models portray a constrained view of top management, as top managers are described to shape the strategic context of the firm by retroactively rationalizing resource allocation decisions (Burgelman, 1983; Noda & Bower, 1996). To address a more direct role of top management influence, Lovas and Ghoshal (2000) present a model of strategy as guided evolution, which highlights the strategic intent of top managers in purposefully designing the formulation and implementation of strategy.

2.3   Theoretical framework

The theoretical framework of this study is positioned within organizational ambidexterity literature (Duncan, 1976; Tushman & O'Reilly, 1996). As documented in the first sections of the theoretical background, ambidexterity literature has called for more empirical research concerning the underlying processes related to the shift from an exploratory focus to an exploitative focus over time (Raisch et al., 2009; Zimmerman et al., 2015; Friesl et al., 2019). Current literature presents the exploration-exploitation transition as a shift from an organizational focus from exploration to exploitation (Raisch & Tushman, 2016), occurring by reintegrating a temporary exploration unit into the exploitative operational business (Hansen et al., 2019; Durisin & Todorova, 2012).

   This dissertation aims to understand how the induced and autonomous strategy processes (Burgelman, 1991, 2002) evolve over time in exploration-exploitation transition (Figure 3). Based on Burgelman's (1991) intraorganizational ecology view, induced strategy processes derive top-down from the top management level, whereas autonomous strategy processes derive bottom-up from the operational and middle levels of management. Accordingly, initiatives that conform to the corporate strategy that top management has announced, usually do not face challenges when middle managers propose them for further development for top management approval (Burgelman, 1983). Autonomous initiatives, on the other hand, emerge outside of the scope of the current strategy and often face challenges in the strategic and administrative contexts of the organization, yet include potential to change the strategic direction of the organization in the case the autonomous initiatives are selected for further development by top management (Burgelman, 1991, 2002).

   This dissertation considers strategy as an emergent process as a combination of intended, deliberate, unrealized, and emergent strategy (Mintzberg, 1978). Burgelman's (1983, 1991, 2002) work considers top-management decision-making in strategy formation through setting the structural and strategic

contexts (Burgelman, 1983; Bower, 1970), the former referring to indirect influence through the formal administrative and organizational structures and the latter to retroactive rationalizing of initiatives brought forward by middle managers (Burgelman, 1983). While Burgelman's (1991, 2002) induced and autonomous strategy process concepts are adopted in the theoretical framework of this dissertation, the framework also takes into account top management's initiative to impose direct strategic intent (Mintzberg, 1978; Lovas & Ghoshal, 2000) in the top-down induced strategy process. Thus the framework acknowledges the critique against Burgelman's (1983) indirect role of top management influence on the strategy formation process.

Ambidexterity literature presents the exploration-exploitation transition primarily as a shift from an organizational focus from exploration to exploitation (Raisch & Tushman, 2016), taking place through reintegrating a structurally separated exploration unit into the institutionalized processes of the core organization (Hansen et al., 2019; Durisin & Todorova, 2012). This dissertation builds on these propositions of exploration-exploitation transition that reflect the seminal work on structural ambidexterity (Tushman & O'Reilly, 1996; Andriopoulos & Lewis, 2009), while also considering studies focusing on the integration mechanisms and the formats of integration established particularly within innovation management and R&D literature (Gassmann et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019).
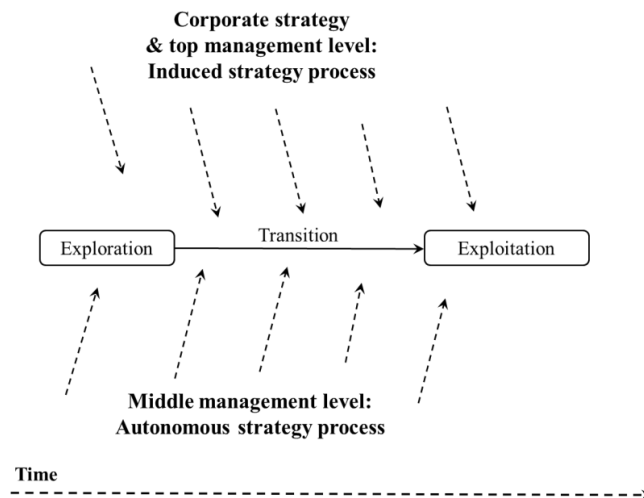
Figure 3. Theoretical framework to study induced and autonomous strategy processes in exploration-exploitation transition over time

Adopting a process research approach (Pettigrew, 1990; Van de Ven & Poole, 1995), this framework provides the theoretical foundations to study the research question "How do induced and autonomous strategy processes evolve over time in exploration-exploitation transition in a large organization with an established core business?". In this dissertation, the entity under analysis in the exploration-exploitation transition is a strategic project (Mirabeau et al., 2018). As described in more detail in the Historical account in Chapter 4 and in the

Findings (Chapter 5), this strategic project undergoes a metamorphosis over the course of the investigated time period (Van de Ven & Engleman, 2004; Sminia, 2009), first assuming the shape of an R&D project with exploration activities at the focus, and then transforming over time into the shape of a business development team with exploitation as the focus of activities. The following Methods part of the dissertation will describe how the activities related to the strategic project were tracked on multiple hierarchical levels across multiple organizational functions over the investigated time frame.

3. Methodology

This chapter outlines the chosen methodological approaches of the study. First, the ontological and epistemological assumptions are introduced and then the process research approach. This is followed by laying out the research design, which describes the research context as well as the data collection and analysis.

3.1 Ontological and epistemological perspectives

In terms of the ontological and epistemological underpinnings, this dissertation adopts a critical realist perspective. Critical realism is based on a realist ontology, which is based on the view that the world exists independent of our knowledge of it. This realist ontology combined with a fallibilist epistemology provides a motivation, a need, and a possibility to critically evaluate theories. Thus, critical realism is composed of these two claims that form the core of the critical realism philosophy of science (Miller & Tsang, 2010). In critical realism, the positivist approach to examine empirical events or regularities as such is considered insufficient. Research with a critical realist approach aims to examine the underlying mechanisms and structures that produce empirical events (Reed, 2005).

3.1.1 The foundations of critical realism

Critical realism emerged during the 1970s and 1980s; thereby characterizing it as a relatively new philosophical orientation (Baert, 2005). Nevertheless, critical realism has been adopted by various disciplines including organization theory (e.g., Tsang & Kwan, 1999) and strategic management (e.g., Mir & Watson, 2001). According to realism, a real world including a social world exists independent of our knowledge about it. Critical realism is a specific version of realism that is usually associated with the work of Bhaskar (1986). According to critical realists, the social world, but not the natural, depends on human action for its existence. Thus, the social world is considered to be socially constructed (Fairclough, 2005). Critical realists avoid arguing that what we can know to exist is dependent on what we can know. Rather, critical realists adopt the position that the existence of scientific knowledge is where we infer from what the world must be like (Baert, 2005).

One of the most central tenets in critical realism is connected to the evaluation of valid observations. In critical realism, observations, interpretations,

explanations, and descriptions are never theory-neutral. This means that researchers always reflect their pre-existing stocks of conceptual resources upon an entity. These pre-existing stocks of conceptual resources are both individual and social or inter-subjective. Thus, access to the world is always mediated by the researchers' beliefs, opinions, accepted theories, social norms or perspectives (Fleetwood, 2005). Thus, critical realists acknowledge that erroneous beliefs can be held by scientists, although they may have persuasive evidence to provide for their research (Baert, 2005). Miller (2005) adds that science is a social and personal process, in which the methods used do not guarantee truth as a result. In critical realism, falsifications are not as strict as in Popper's (1959) falsificationism. Although the fallibilist epistemology is embodied in critical realism and motivates new research to question existing theories, falsifications in critical realism are not definitive or certain. Rather, fallibilist efforts are encouraged first and foremost for the advancement of knowledge. The aim of researchers is to evaluate theories in order to offer their judgments on inferior and superior aspects of the phenomenon (Sayer, 1992).

The socially constructed nature of critical realism does not mean that there are no aspects of the social world of which we would not have mistaken or limited knowledge. Therefore, in critical realism, epistemology and ontology must be separated, since our knowledge of reality and the nature of reality should not be confused. Critical realists acknowledge that some representations of the world constitute better knowledge of the world than others and aim to search for justifications for determining how some can be considered better than others (Fairclough, 2005).

3.1.2 The stratified ontology in critical realism

Critical realist research aims to uncover the underlying structures and mechanism producing empirical events. This means that researchers conducting studies with a critical realist approach are committed to a stratified ontology. This stratified ontology refers to deep structures and mechanisms shaping regularities and events (Reed, 2005). The stratified ontology of critical realism views events, structures, and processes as possessing different properties and being layered into different strata of social reality. These strata are classified as the real, the actual, and the empirical (Fairclough, 2005). The domain of the real signifies objects as structured and as existing independently of people. The structured nature of reality means that scientific laws designate the underlying mechanisms that exercise powers. The mechanisms or underlying structures are what generate events. These mechanisms or underlying structures are real and influence the surface domain, although they are not immediately observable. The domain of the actual is where patterns of events occur. In the domain of the empirical, observations of the events and perceptions are formed (Baert, 2005; Fairclough, 2005).

The structured nature of reality means that scientific laws designate the underlying mechanisms that exercise power. The mechanisms or underlying structures are what generate events. They are also real and influence the surface domain, although they are not immediately observable. Critical realists note

that ontology does not further specify the precise nature of the entities that lie beneath the observable surface, rather, it is the task of various sciences to speculate about them. In open systems, there may also be a lack of synchrony between the three domains (Baert, 2005).

Causal powers are not merely the properties of structures, as social agents also exert causal powers that influence the actual. These mediating entities are necessary in critical realism in order to account for the relationship between events, processes, and structures. Such mediating entities may also be referred to as social practices, which embody diverse social elements. These social elements form different dynamic networks. Such networks are, for example, organizations, social fields, and institutions. Critical realists strive to explain the social processes and events through the causal powers of human agency and structures as well as the contingency of their influence (Fairclough, 2005).

3.1.3 Critical realism and case study research

The ontological and epistemological foundations that underlie this research further influence which methods and research techniques are appropriate (Fleetwood, 2005). In critical realism, scientific knowledge about reality can be acquired through the construction and testing of theories (Tsang & Kwan, 1999). In this dissertation, the aim is to construct theories about the world based on existing knowledge combined with empirical observations, and search for evidence that stems from empirical data. This is supported by adopting an abductive research approach, which means that research continuously moves between the theoretical framework and empirical observations (Dubois & Gadde, 2002).

In critical realism, concrete events of social life are first abstracted in order to gain an understanding of the pre-structured nature of social life (Fairclough, 2005). Easton (2010) suggests identifying the object or entities that characterize the examined phenomenon (Easton, 2010). According to Easton (2010), relatively clearly bounded yet complex phenomena, such as organizations, are particularly well suited to adopt a critical realist case approach. It is important to determine the boundaries of the phenomenon under examination, for instance, the organization. However, these boundaries may change as research proceeds (Easton, 2010). In this doctoral research, the boundaries of the phenomenon are the case organization under investigation, the competitive environment and the time frame under which the research is carried out.

In critical realism, data collection should be guided by thinking of the requirements needed to establish a plausible causal mechanism, while considering what data is available to be collected (Easton, 2010). Easton (2010) notes that case studies may include both inductive and deductive data collection phases. To identify the phenomenon of interest, to discern certain mechanisms at play, or to suggest connections to previous research, deduction may be useful. On the other hand, induction provides data regarding events for explanation and tests these explanations. Finally, explanations generate the identification of mechanisms with the data as evidence (Easton, 2010).

In critical realism, data analysis focuses on the relationship between the events, texts particularly in discourse analysis, and orders of discourse, and pre-structured networks of social practices (Fairclough, 2005). Critical realists also accept that data is collected from people as well as about and from material objects. Thus, explanations are fundamentally interpretivist in nature (Easton, 2010). Easton (2010) refers to Sayer (1992) noting that causal misattributions are easy to make due to the complexity of the phenomenon under study. In addition, it is possible that different mechanisms cause the same events. Multiple mechanisms may be the cause and such issues also need to be adapted into the research design. Case research is well adapted to address these problems as case researchers, particularly in critical realism, need to return to the issue and ask 'Why?'. The issue of returning to discover more is related to retroduction. The critical realist notion of retroduction refers to the uncovering of powers, mechanisms and structures beneath the instantly observable surface level. This means that attention is focused on the process by which new phenomena are examined through analogies already familiar to researchers. Thus, the role of previously established facts and theories are highlighted in explaining new phenomena (Baert, 2005; 94). Retroduction is important to critical realists as it embodies a metaprocess that strives to identify the mechanisms that explain what caused certain events to take place. Retroduction is likely to be iterative (Dubois & Gadde, 2002).

Finally, a critical realist researcher doing case research needs to evaluate whether the explanation arrived at is good or not. Acceptable may be a more suitable concept here, since it views arriving at the findings in the best possible way considering the circumstances. Through judgmental rationality, researchers can discuss their findings and implications publicly as well as reflect on arguments for and against their arguments (Easton, 2010).

3.2 Process research approach

This dissertation is conducted as process research (Pettigrew, 1990; Van de Ven & Poole, 1995); an approach that is concerned with questions on how and why phenomena develop, emerge, or terminate over time (Langley et al., 2013). A central tenet in process research is that context is an inherent part of the phenomenon studied. Both the external and the internal context of the phenomenon are considered in process research (Pettigrew, 1985). The central role of temporality distinguishes process studies from variance theorizing. Langley et al. (2013) note that process research acknowledges time and the influences of its development as an underlying assumption, whereas variance theorizing may, for instance, compress the dimension of time into variables.

Process research views the past as a central element of the present, and it is acknowledged that the historical perspective is part of the context under study (Pettigrew, 1985). Process research regards social reality as dynamic, occurring, and becoming, aiming to "catch reality in flight" (Pettigrew, 1997: 338). Thus, process studies consider multiple levels of analysis, forming a continuum, rather than a clear classification or hierarchy (Langley, 1999). Process research

aims to uncover the underlying mechanisms of processes, thus striving to recognize patterns that explain how the process takes shape (Pettigrew, 1997). Due to the shifting contexts, these underlying patterns may reveal processes as non-linear and open-ended (Sztompka, 1993). Process research is more concerned with holistic explanations that take the interrelated and evolving contexts into consideration (Pettigrew, 1997).

Although the nature of aims may draw process researchers towards inductive data collection, process research also benefits from deduction by remaining focused on pattern recognition (Pettigrew, 1997). Pure induction may be dangerous as process research carried out through longitudinal field research commonly proves to be complex. Striving to strictly inductively understand these complexities may lead to "death by data asphyxiation" (Pettigrew, 1990: 281). Pettigrew (1997) suggest this can be avoided by introducing a priori constructs from theory, ensuring that induction and deduction manifest themselves in cycles (Pettigrew, 1997). Process research is often conducted longitudinally, as researchers observe certain patterns of events or actions from phases occurring over a period of time (Langley, 1999). According to Pettigrew (1990, 1997), this allows for an anticipation of multiple sources and connections of causation. Furthermore, studying a phenomenon over time allows one to identify as well as explain patterns and mechanisms that underlie the examined process (Pettigrew, 1990, 1997).

3.3   Case study approach

In order to uncover the underlying dynamics of the phenomenon of interest in process research, longitudinal research is needed which provides rich descriptions of the details of how these dynamic processes unfold over time (Siggelkow, 2007). Case study designs are particularly well suited for longitudinal studies and offer possibilities for rich depictions of the phenomena of interest (Siggelkow, 2007; Yin, 2003). As noted by Stake (1994: 236), "case study is not a methodological choice, but the choice of object to be studied". The case study is both the learning process for a researcher and an outcome of the researcher's learning (Stake, 1994). Case study research often draws evidence from multiple sources to provide a history of a current or a past phenomenon (Eisenhardt, 1989). Case studies can represent either a single case or multiple case designs (Yin, 2003; Eisenhardt, 1989). The number of cases representing adequate case study research has been debated in the literature (Eisenhardt, 1989; Eisenhardt & Graebner 2007). Multiple case designs have been proposed to represent better accuracy and generalizability of the findings in terms of theory-building (Eisenhardt & Graebner, 2007). However, as discussed in the Quality of the study section (3.4.6), this dissertation adopts the perspective that generalization is not the purpose of the nature of enquiry in case study research (Yin, 2003). Rather, analytical generalization (Yin, 2003) through theory elaboration that allows for linking the case study findings to particular theoretical concepts (Schwandt, 2007), is considered as the foundation for theory building from case study research in this dissertation.

One of the rationales presented by Yin (2003) to justify a single case study is the longitudinal case in which a case is studied over an identified period of time that involves change in the particular circumstances. This type of a single case design is complete as its own study (Yin, 2003). Following studies of in-depth historical case studies (e.g., Bower, 1970; Leonard-Barton, 1990; Burgelman, 1983, Danneels, 2010, Friesl et al., 2019), this doctoral research is conducted in a single site, yet draws from multiple managerial levels and organizational perspectives (Leonard-Barton, 1990). It is noted that careful consideration needs to be taken to ensure that the case of interest actually represents the case that was estimated in the beginning (Yin, 2003). In this dissertation, I confirmed this by making three preliminary interviews between April and August 2014. These interviews allowed me to form an understanding of the context and, as suggested by Yin (2003), to ensure the relevance of the case in terms of the research area of interest and to evaluate the access to be able to maximize the evidence needed for the case study.

Critical steps in case study research involve defining of the boundaries and the unit of analysis of the case study (Yin, 2003). Therefore, the single case study setting of this research, the levels and units of analysis, and the case description are presented in detail in the next sections.

3.4   Research design

3.4.1   Research setting[1]

The setting of the case study is KONE Corporation (throughout this dissertation referred to as "KONE"), a global Finland-based publicly traded corporation operating in the elevator and escalator industry. Founded in 1910, KONE is one of the largest manufacturers of elevators and escalators on a global scale also providing modernization solutions and maintenance services. KONE's customers include builders, buildings owners, developers, and facility managers. KONE has been a family company since 1924, when Harald Herlin bought KONE. The Herlin family ownership of KONE spans four generations. Antti Herlin has served as the Chairman of the Board since 2003.

KONE's headquarters are located in Helsinki with corporate offices in Espoo, Finland. The organization consists of two business lines, New Equipment Business and Service Business with operation of these business lines taking place in Central and North Europe, South Europe, Middle East and Africa, Greater China, Asia-Pacific and the Americas. KONE is organized as a matrix organization with centralized support functions. The management of KONE comprises of the President and CEO, a Board of Directors, and an Executive Board.

The focal time period under investigation in this dissertation involves a 12-year time frame from 2004 until the end of 2015. At the end of the investigated time frame in 2015, KONE had annual net sales of 8.6 €M, of which 57 percent

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[1] Main data sources for the background of the research setting: Michelsen (2013); Ruckenstein et al. (2011); KONE website: https://www.kone.com/en/investors/reports-and-presentations

derived from New Equipment business and 43 percent from Service business. The estimated global market share in new elevator and escalator sales in 2015 was 19 percent. In 2016, KONE had authorized distributors in over 60 countries and nearly 50 000 employees globally. KONE has several global R&D units with the main R&D unit in Hyvinkää, Finland. In recent years, KONE has been recognized in the Forbes ranking of the top 100 most innovative companies. For example, KONE introduced the first machine-room-less elevator in the world and has developed a high-rise elevator technology enabling travel heights of one kilometer. Furthermore, KONE has successfully sought growth especially in Asia-Pacific.

A major period in KONE strategy began in 2005, when Matti Alahuhta started as the President of KONE. Matti Alahuhta acted as the President of KONE between 2005 and 2014 and as the CEO between 2006 and 2014. During this time, the corporation's financial results continuously increased and the global market share doubled. President Alahuhta started a process of transforming the corporate strategy of KONE in 2005, introducing a set of strategic development programs (Must-win battles) that were set for three years at a time. These strategy periods are presented as part of the introduction of the Historical account in Chapter 4, as they represent the corporate strategic context set by top management.

This dissertation focuses on the development of people flow solutions at KONE. As the Historical account in Chapter 4 details, a team at KONE R&D examining user interfaces named their approach to the end-user journey as 'people flow' in 2005. This dissertation examines the R&D and business development activities related to the people flow solutions development over a 12-year time period from 2004 to 2015. In 2013, 'People Flow Intelligence' (PFI) solutions were launched, comprising of access and destination control solutions, as well as equipment-monitoring and information communication solutions. The empirical case study examines the different phases of development of the people flow solutions, while considering the changes in the strategic context at KONE that took place over the investigated time frame.

3.4.2   Levels and units of analysis

The unit of analysis in this dissertation is defined as activities at the strategic project level. This is in line with considering strategy to emerge from patterns of activities over time (Mintzberg et al., 1998; Mintzberg, 2007). The strategic project as the entity under analysis follows the suggestion by Mirabeau et al. (2018) to operationalize the tracking of activities "by tracking the implementation of strategic projects, in other words, bundles of purposeful activities with stated objectives" (Mirabeau et al., 2018: 590). The tracking of activities in the empirical study in this way is more practical and not confined to tracking individuals' single acts (Mirabeau et al., 2018). The strategic project level as the focus of analysis allows documenting and producing data on a concrete and focused level of analysis (Burgelman, 1983; Bower, 1970).

In process research, it is possible that the unit of analysis experiences a metamorphosis over the course of the investigated time period (Van de Ven &

Engleman, 2004; Sminia, 2009). Such a transformation may concern the content (Sminia, 2009; Poole et al., 2000), or the shape of the unit of analysis as the entity under analysis may merge with another entity, transform into some other type of entity, or altogether cease to exist (Van de Ven & Engleman, 2004). In this dissertation, the strategic project as the entity under analysis does undergo transformation in terms of both content and shape. In the empirical part of this research, the strategic project is focused on the transformation of a strategic project related to new solutions development in a large, industrial corporation with an established core business. The strategic project first adopts the shape of an R&D project with exploration activities as the focus yet transforms into the shape of a business development team with exploitation at the focus of activities.

This dissertation considers multiple levels of analysis regarding the activities related to the strategic project. This means considering multiple hierarchical levels in the organization including operational, middle, and top management levels. In addition, multiple organizational functions are considered as the empirical study involves activities at R&D, business organization, sales organization, and support functions level. Tracking the activities related to the implementation of the strategic project on these various levels of activities takes place during a defined time period under inquiry. In this dissertation, this focal time period spans a twelve-year time frame from 2004 to 2015.

3.4.3   Case description

The research question of this dissertation requires considering the induced and autonomous strategy processes in exploration-exploitation transition over time. In order to answer the research question, the research site under investigation needs to fulfil certain criteria following the theoretical framework outlined in section 2.3. First, the research site needs to include a strategic project that undergoes exploration activities that are related to attempts to transition the project into exploitation, in order to be able to track the exploration-exploitation activities related to the implementation of a strategic project (Mirabeau et al., 2018; Burgelman, 1983; Bower, 1970). Second, the research site needs to enable for the examination of the strategic context in which these activities are taking place. Both the official corporate strategy processes set by top management that reflect direct top management strategic intent (Mintzberg, 1978; Lovas & Ghoshal, 2000) and the emergent bottom-up strategy processes (Mintzberg 1978; Burgelman, 1983; Mirabeau & Maguire 2014) need to be considered to be able to investigate the induced and autonomous strategy processes. Examining the temporal transformation of the content and shape of the strategic project at KONE fulfils these criteria to be able to understand the evolution of the induced and autonomous strategy processes in exploration-exploitation transition over time. KONE and the transformation of the strategic project under investigation provide a particularly suitable and interesting research site as the strategic project was identified to undergo two different periods of exploration-exploitation transition activities over a time frame that experienced significant changes in the strategic context of KONE. This section provides a brief case

introduction aiming to summarize the transformation of the content and shape of the strategic project over time, while a more detailed case description follows in the Historical account (Chapter 4).

As mentioned, this dissertation focuses on tracking the activities related to the implementation of a strategic project (Mirabeau et al., 2018; Burgelman, 1983; Bower, 1970). In order to provide a description of the case under investigation in this dissertation, the strategic project that is the entity under analysis needs to be defined. Following Mirabeau et al.'s (2018) conceptualization, a strategic project is defined as intentional activity which is performed according to stated goals and spans across one or several levels of strategy. These strategy levels involve the operational strategy, business strategy, and corporate strategy (Mirabeau et al., 2018). As mentioned in the introduction of KONE as a research setting (3.4.1), this dissertation examines people flow solutions development at KONE throughout a time period that spans twelve years from 2004 to 2015. The case study of this research is comprised of the analysis of the activities undertaken in the various different forms of the strategic project over time (Van de Ven & Engleman, 2004; Sminia, 2009; Poole et al., 2000), which contributed to the launch of People Flow Intelligent solutions in 2013 as well as the business development activities analyzed until the end of 2015.

In the beginning of the analyzed time frame in 2004, the strategic project under analysis took the form of an explorative R&D project called "Optimal User Interface". In 2007, the strategic project transformed from conceptual exploration activities to activities in line with KONE R&D's product development process in a project called "DELI". At the corporate strategy level, activities related to KONE's corporate strategy redefinition in 2005 are considered in this dissertation, as they lay the basis for further corporate strategy level activities that relate to the people flow solutions development. One of these subsequent activities at the corporate strategy level occurred in 2007, when the people flow concept was adopted into KONE's corporate vision. Another event took place in 2008, when the 'Innovative People Flow Solutions' was added as a new strategic development program. In 2010, the strategic project under analysis took the form of an initiative that led to a resource boost of the people flow solutions development team at the R&D department. In 2011, the focus was on activities at the business and corporate strategy levels of analysis as preparation activities for organizing the business development of the people flow solutions were identified at the top management level of analysis. These preparations resulted in the strategic project that took the form of a business development team called "Access and Integrated Solutions" (AIS) in 2012.

In the time frame, activities were found particularly prevalent to exploration-exploitation transition in two specific time periods in 2007-2009 and in 2010-2015. In 2007-2009, transition activities related to the IDE300 product in the DELI project were discovered. Between 2010-2015, transition activities related to the AIS business development team were identified in terms of the activities in preparing, establishing, and building the business operations. The analysis aims to answer the research question by reflecting on the roles that the strategy

redefinition in 2005 as well as the subsequent 'Innovative People Flow Solutions' strategic development program implementation in 2008 played in the exploration-exploitation transition activities over time. An analysis of the rest of the focal time period 2012-2015 is related to the AIS team's business-building activities. The focal time period ends in 2015, due to the AIS team that had operated in the New Equipment Business line being reorganized into the NSS team in the Service Business line in January 2016.

3.4.4 Data collection

The empirical research has been carried out using qualitative research methods. The main source of data in this study are interviews, which involved discussions on events in retrospect. Huber and Power (1985) note that retrospective interviews have the disadvantage of involving perceptual and motivational biases related to the individual manager's role in the organization. Accordingly, these biases are amplified by the research settings of the strategy themes, in which only a few informants often qualify as respondents; therefore, further interviews may not remove inaccurate accounts (Huber & Power, 1985). In this study, retrospective biases have been tackled in multiple ways. First, data triangulation (Denzin, 1970) has been employed by utilizing multiple sources of qualitative data. Archival data throughout the examined time frame has been utilized to verify key events. Covering the first half of the investigated time frame between 2004-2009, another case study in a book chapter was utilized to mitigate the bias of the retrospective interviews.

In addition, bias from retrospective interviews is further mitigated in this study by covering accounts from multiple managerial levels across the organization. Interview respondents span multiple managerial levels from operational, middle, and top management levels. These accounts from multiple managerial levels have been collected from across the organization, including business lines, R&D department, support functions, and sales organization. This coverage aims to mitigate the political and motivational biases of informants that has been suggested by Huber and Power (1985) to prevail in strategy themed research.

Another factor that is considered to reduce retrospective bias in this research is that the interviews were conducted either during the end of the investigated time frame or a few years after the time frame had passed. Minimizing the elapsed time between the investigated events and time of the interviews is one of the guidelines suggested by Huber and Power (1985) to elicit accurate information in retrospective interviews. Out of the 32 interviews, 23 were conducted during the last two years of the investigated time frame between 2014-2015, seven were conducted during the two following years in 2016-2017, and 2 were conducted between 2018-2019. Most of the informants had worked at KONE during the beginning of the investigated time frame and were still employed by KONE at the time of the interview. Informants who had been involved with the activities studied in the case during the beginning of the time frame, had also been involved in most of the key events throughout the time frame in various differing positions as their careers had progressed at KONE.

This means they were familiar with the case timeline, thus recalling events from the past ten to twelve years was mostly not an issue. In case there was any uncertainty about the course of events in the informant's account, other data sources and further interviews were utilized to confirm the information.

As suggested by others, such as that of Kannan-Narasimhan and Lawrence (2018) as well as Danneels (2010), the retrospective nature of enquiry in interviews is a benefit in the sense that informants do not need to fear the consequences of their statements of the past on their current career or project outcomes. In this research, the elapsed time was clearly beneficial in the interviews as an adequate amount of time had passed, ensuring that informants were able to openly discuss past events and development projects. For example, one of the key events identified in the case took place in 2012, which was two to three years prior to the timing of most of the interviews. This provided a suitable amount of time to have passed for the informants to recall events and to have an open discussion.

The following Table 2 portrays the data sources, types of data, the analyzed time period of the data source, and the use of data. This list is followed by a description of each data source, including the use and role of the source in data triangulation.

Table 2. Data sources

Data source	Data type	Time period analyzed	Use
Interviews (32 total, 449 double-spaced pages)	Preliminary (3) semi-structured	2004-2015	Gaining an understanding of the context
	Focused (29) semi-structured	2004-2015	Forming a focused understanding of the key events, activities and context
Central Archives for Finnish Business Records	Archival: 22 issues of KONE "News & Views" in-house magazines (archival signum 11655:1364)	1999-2006	Gaining an understanding of the context, preliminary analysis of key events
KONE website (retrieved 02-11/2015)	Archival: 15 issues of KONE People Flow stakeholder magazines	2009-2015	Gaining an understanding of the context, preliminary analysis of key events
Seminar participation	Informal discussion with former AIS team members	2004-2015	Verifying preliminary timeline of key events
Johtajuus (Alahuhta, Häikiö & Seppänen 2015)	Leadership book by Matti Alahuhta, former President and CEO of KONE	2005-2014	Verifying interview data of key events, data source for the historical account
Kone: perhe, yrittäjyys ja yritys teollisuuden vuosisadalla (Michelsen 2013)	Historical book about KONE	2000-2010	Gaining of understanding of the context, verifying interview data of key events
Kone: arjen luksusta uusilla ratkaisuilla (Ruckenstein, Suikkanen & Tamminen 2011: Unohda Innovointi - Keskity arvonluontiin)	Book chapter about KONE's DELI project	2004-2009	Verifying interview data of key events, data source for the historical account
Annual reports	KONE corporate report	2000-2007	Data source for strategy and vision
Corporate responsibility reports	KONE corporate report	2009-2013	Data source for strategy and vision
Sustainability reports	KONE corporate report	2015-2017	Data source for strategy and vision
Financial statements	KONE corporate report	2008-2014	Data source for strategy and vision
KONE Announces Organizational Changes	KONE Stock exchange release	2005	Data source for strategy and vision

Interviews

I conducted a total of 32 interviews with 26 different informants, out of which 22 interviews were conducted during the last two years of the investigated time frame between 2014-2015 and ten interviews between 2016-2019. Although most interviews were conducted during the investigated time frame, all interviews involved discussions in retrospect. I conducted three interviews which I consider to be preliminary, as I formed an understanding of the context through these first interviews between April and August 2014. The 29 interviews from October 2015 onwards were focused as I began to gain an understanding of the key events around the development of the people flow solutions and the business development efforts. In the interviews, I received suggestions on further contacts to interview. This helped in discerning the key people that had been involved with the solutions' development and business development activities throughout the time frame. I also reviewed the list of informants at least three times at different stages in the interview process with a key informant, which enabled me to confirm that I had interviewed all the relevant people.

   I interviewed four key informants multiple times throughout the time frame to provide additional information and to verify the timeline of events and tentative analysis at different stages during the iterative data collection and analysis process. In November 2015, I interviewed a key informant for the second time and presented a timeline of the key events that I had identified. This key informant had been involved in all key R&D and business development activities throughout the time frame. During a fourth interview with the same key informant in February 2017, I presented a detailed analysis of events. I conducted the last interview in November 2019 to discuss the finalized historical account that I had sent ahead for a key informant to review. In total, the finalized historical account was reviewed by two key informants that I had previously interviewed and by a third key contact, who at the time of the review in December 2019 was in a top management position at the KONE business organization.

   The distribution of the interviews at KONE is presented in Table 3. The interviewees are presented according to their titles at the time of the interview. Out of the four informants that were interviewed multiple times, two are presented in the table under different titles as the informants changed positions during the interview process.

Table 3 Informants interviewed at KONE

KONE interviewees	Time of interview	Number of interviews
Research and Development		
Director, Product Development	11/2014	1
Platform Portfolio Manager 2nd interview: Director, New Business Concepts, AIS, NEB	04/2014, 10/2014	2
Platform Portfolio Manager	11/2016	1
Design Director	05/2015	1
Design Manager	11/2014	1
Director, Design Solutions	01/2015	1
Project Manager	01/2015	1
Project Manager	02/2015	1
Research Director	12/2015	1
Former SVP KONE Technology and R&D	11/2015, 01/2017	2
New Equipment Business (NEB)		
Executive Vice President, NEB 2nd interview: Former Executive Vice President, NEB	12/2015, 11/2019	2
Senior Vice President, AIS	11/2014	1
Business Development Manager, Door Business	12/2014	1
Head of Sales, AIS	02/2015	1
Senior Manager, AIS	06/2015	1
Director, People Flow Planning	06/2015	1
Director, AIS	01/2015, 11/2015, 08/2016, 02/2017	4
Director, Sales support and operations, AIS	01/2016	1
Business Development Manager, Sales	07/2018	1
Other parts of KONE organization		
Director, Head of Global Development China	06/2014	1
SVP Manufacturing Network and Supply Units	12/2015	1
Head of Competence Management	08/2014	1
Outside of KONE organization		
Former SVP, Global Communications	12/2015	1
Former Head of Talent Management	10/2014	1
Former Usability specialist, R&D	12/2016	1
Former consultant	01/2016	1
Total number of interviews		32

The interviews were semi-structured and included the following pattern. I first asked the informants about their background and current position at KONE. If I knew that the informant had been involved with solutions development or related business development activities, I also asked the informant to describe their background and current activities related specifically to these areas. The next questions usually involved the timeline of the solutions development and business development activities from multiple perspectives, depending on the background and current position of the informant. Depending on the informant's involvement in a particular event during the time frame, more detailed questions were presented. In addition to a semi-structured template, there was no detailed interview guideline. Rather, I was able to present questions based on the tentative conclusions I had arrived at during previous interviews. I verified the course of events by asking about the events and activities from multiple respondents. These questions usually provided me with more information regarding the events and provided insights from multiple perspectives.

Seven interviews were conducted via phone or Skype, most of them with former KONE employees. The informants who were employed by KONE at the time of the interviews were interviewed either at KONE's corporate offices in Espoo or at KONE's main R&D unit in Hyvinkää. Interviews lasted on average one hour with a range from 30 to 70 minutes. All 32 interviews were recorded and transcribed. I transcribed 17 interviews myself and 15 interviews were transcribed by a transcription agency. In total, the transcriptions resulted in 449 double-spaced pages.

Archival material

In February 2015, I explored the public archives of KONE at the Central Archives for Finnish Business Records in Mikkeli. I reviewed archival records consisting of 'News and Views' publications[2], which were KONE's in-house magazines available between 1996-2006, out of which I focused on 22 issues that were available between 1999-2006. As I reviewed the issues, I photographed articles that I considered relevant at that stage of analysis, related to specific themes, such as innovation and strategy. I included magazines between 1999-2003, although they were out of the scope of the investigated time frame as I wanted to understand the history of KONE also prior to the time frame. I re-reviewed the article photographs and made notes based on them, after which I compiled a 15-page summary of my notes about the articles between 1999-2006. After this, I downloaded the People Flow stakeholder magazines from KONE's website between February and December 2015. Altogether 15 issues between 2009-2015 were available, which I reviewed and then produced a 10-page summary based on my notes. After this, I re-reviewed the two summaries and drew up a year-by-year list of the main events between 1999 and 2015. Based on this preliminary stage of analysis, I formed an understanding of the key events that had occurred during the time frame. I also used these archival sources to verify events that surfaced in interviews.

Books/book chapters

Three books were used in the data collection. One of them was a leadership and management book "Johtajuus" by Matti Alahuhta (Alahuhta, Häikiö & Seppänen, 2015), who acted as the President of KONE Corporation during 2005, and President and CEO of KONE Corporation between 2006 and 2014. This book was used to verify interview data about key events and as the main source of data when forming the historical account in section 4.5.2 "Redefining corporate strategy" under section 4.5 "Phase 2: Product development & strategy renewal (2005-2009)". This book was extremely useful in providing insight into the strategy work at KONE, particularly concerning the years between 2005-2008. The book involved multiple detailed accounts of top management level activities regarding the work on strategy redefinition and strategy implementation.

Another book that was used to verify interview data about key events and as a data source for additional insights was Ruckenstein, Suikkanen and

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[2] Archival signum is 11655:1364 at the Central Archives for Finnish Business Records

Tamminen's (2011) book chapter "Kone: arjen luksusta uusilla ratkaisuilla" in their book "Unohda Innovointi - Keskity arvonluontiin", published by The Finnish Innovation Fund Sitra in 2015. This book chapter was used to corroborate and verify interview data about the early solutions development and DELI project activities concerning IDE300 product development and business development efforts between 2004-2009. Considering that all the interviews regarding this time period were conducted in retrospect, this book chapter provided a valuable source of data to verify the key events and activities for the first half of the time frame investigated in this research. This book chapter was utilized in the historical account of this study also by presenting quotes to provide additional reflection to completed interview data.

The book about KONE's history called "Kone: perhe, yrittäjyys ja yritys teollisuuden vuosisadalla" by Michelsen (2013) was used to gain an understanding of the historical background of KONE. I also used this book to verify key events related to strategy formulation between 2005-2008.

Seminar participation

In January 2018, a key informant that I had interviewed multiple times invited me to present my preliminary analysis at an informal 90-minute long seminar. Out of the six seminar participants, excluding myself, participants included five former AIS business team employees whom I had all interviewed between 2014-2017. I presented my analysis of the timeline of key events at this seminar, which enabled me to corroborate and verify my analysis with a set of key informants. The seminar discussion was not recorded, but I made notes on the discussion regarding my presentation.

Corporate reports

As KONE is publicly traded, public reports were available including press releases, stock exchange releases, annual reports, and financial statements. Public corporate reports were used as data sources to find information on KONE's strategy and vision. Annual reports before 2004 were also reviewed to find information of the strategy prior 2005.

3.4.5 Data analysis

Focusing on data collection and preliminary analysis

This research is abductive, meaning that both the theoretical framework and the data collection process have iteratively influenced the data analysis (Dubois & Gadde, 2002). In the study, the different sources of data have been collected and iteratively analyzed between 2014-2019.

I began data collection in April 2014 with preliminary interviews to gain an understanding of the research context, which progressed to focused interviews in October 2014. Once I had conducted 12 interviews in total, I collected and began the analysis of archival material consisting of the in-house magazines at the Central Archives for Finnish Business Records and the stakeholder magazines retrieved from the KONE website in February 2015. As a preliminary stage of analysis, I summarized my analysis based on this archival material in

August 2015. By the end of 2015, I had conducted 23 interviews. Out of these, I had transcribed 15 myself. Analyzing the archival material while conducting and transcribing interviews provided a preliminary stage of analysis, which deepened my understanding of the course of events.

In 2016, I produced timelines of the key events I had discerned from interview and archival data showing them to a key informant at KONE for commentary. The key informant also recommended the book chapter "Kone: arjen luksusta uusilla ratkaisuilla" (Ruckenstein et al., 2011), which was useful in verifying interview data concerning the first half of the investigated time frame between 2004-2009. I read the historical book "Kone: perhe, yrittäjyys ja yritys teollisuuden vuosisadalla" (Michelsen, 2013) to gain insights about KONE's background, as well as Matti Alahuhta's leadership book "Johtajuus" (Alahuhta et al., 2015), which was published in October 2015.

Event structure analysis

I adopted Langley's (1999) narrative strategy approach, which is suggested as a preliminary stage when analyzing process data (Langley, 1999). This approach involves constructing a detailed case chronology from raw data (Langley, 1999). In spring 2016, I wrote a 12-page narrative of the key events based on the analysis of the various data sources, which I organized into a detailed year-by-year chronology. Langley (1999) suggests using the narrative approach combined with other process data analysis strategies, although the narrative approach may also be considered a validation tool.

In order to systematically analyze this historical narrative, I applied the Event Structure Analysis (ESA) method (Heise, 1989). Applied in sociology and organization research (e.g., Griffin, 1993; Stevenson & Greenberg, 1998; Pajunen, 2005), Event Structure Analysis provides a structured way of depicting event sequences and causalities of historical events (Griffin, 1993; Corsano & Heise, 1990; Heise, 1989). The role of applying ESA acted as a preliminary step in data analysis to identify the most central events as a timeline, with the goal of being able to utilize these central events in the following step of the data analysis process that involved the coding of the interviews with a Computer Assisted Qualitative Data Analysis Software. Therefore, as ESA provides the basis to build the further data analysis steps that eventually contribute to deriving the findings and contributions of this study, its application in this research is described here in order to provide transparency of the entire data analysis process.

The first step in applying ESA is to form a detailed chronological narrative, which I had produced in the preceding stage of data analysis. The next step was to identify key events from a narrative (Heise, 1989). For this purpose, I selected 43 key events from the chronology that I had produced. I listed each identified event year-by year from 2005 to 2015 with the name of the event, a short description, and a code that I had assigned to the event. This selection involved events at multiple managerial levels, both at the corporate strategy and top management level and at the middle management level in the R&D and business organizations. This ensured that applying ESA did not exclude the richness of the data on the unfolding of the events at multiple organizational levels.

The next step in applying ESA is entering all the codes into ETHNO, which is an online software program that helps to point out the connections between different events (http://www.indiana.edu/~socpsy/ESA/). The ETHNO program does not discover the event causality for the researcher, rather the program helps the researcher to carefully and precisely analyze event relations by systematically assisting in this process (Griffin, 1993). ETHNO does this by prompting yes/no questions, which the researcher answers by deciding the impact of previous actions or events on the following ones (Griffin, 1993).

ETHNO produces a diagram that illustrates the event structure between the codes that the researcher enters into the software. Once I had conducted the input of codes and ETHNO had produced this diagram, I arranged the diagram temporally. This acted as an analysis stage that clarified the causal relations of the key events in the timeline between 2004-2015. I also noticed that certain events of similar nature could be grouped together. Based on this analysis, I produced a refined version of the diagram as a timeline depicting key events and their causal relations. I discussed this timeline with a key informant at KONE in August 2016, which served as a step to verify my analysis. An updated model of the illustration was produced based on this discussion (See Figure 4).

In order to take into account the multiple levels on which the events took place, the timeline presented in Figure 4 depicts events at the level of the external environment, at the level of corporate strategy and top management, and at the level of the middle management in R&D and business organizations. The visualization depicts how ETHNO pointed out to three central events that acted as starting points (highlighted in yellow) for other events to unfold (highlighted in blue). Highlighted in green, ETHNO also pointed out to a central event that was identified to occur based on two separate starting point events in the timeline. In the end of the timeline, the visualization aims to depict that the events led to activities that took place on both top management and middle management levels. The following section describes how this preliminary data analysis step by applying ESA contributed to the coding of the interviews, which was the next step in the data analysis process.
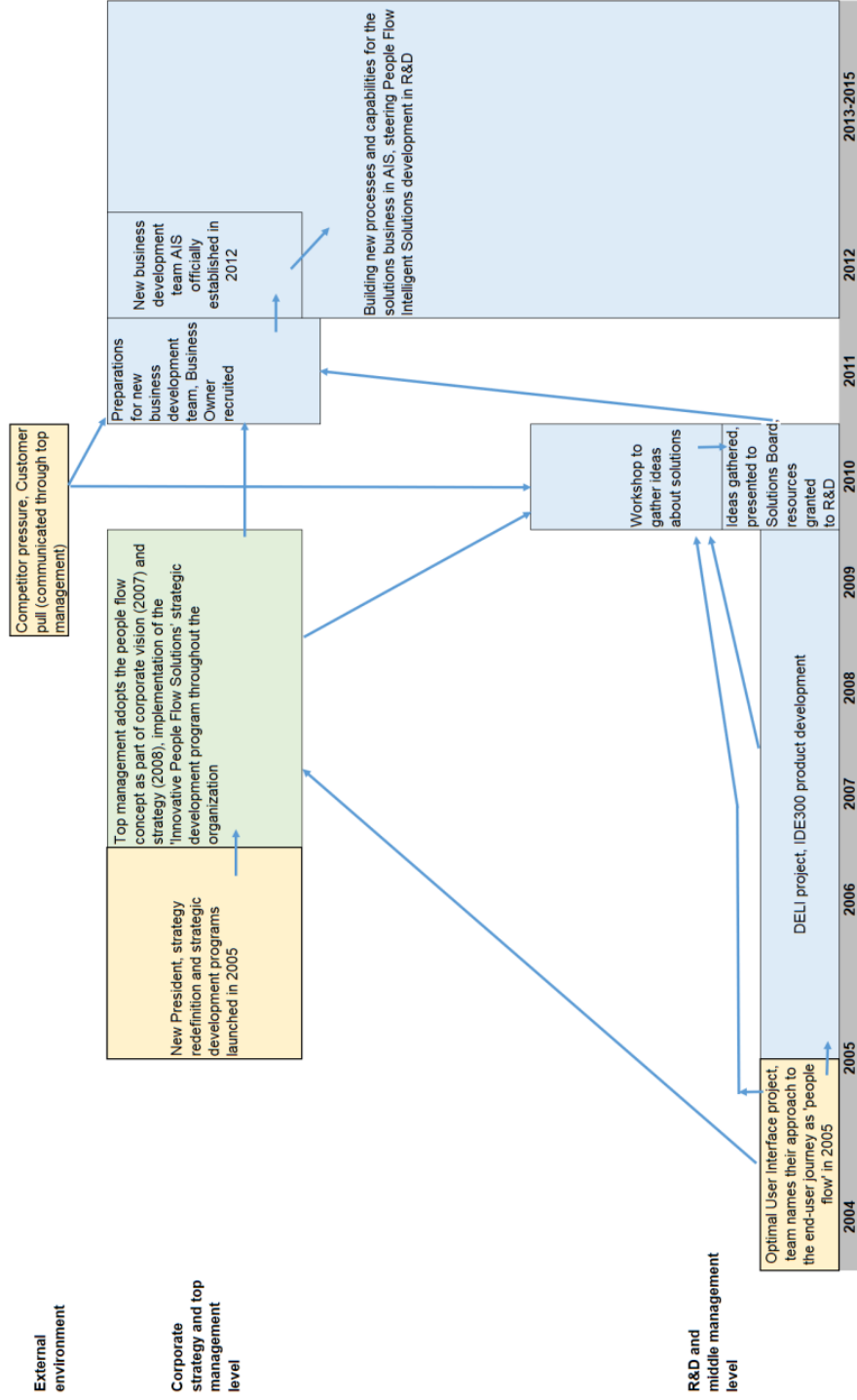
Figure 4. Analysis of causal relations based on Event Structure Analysis

External environment

Competitor pressure, Customer pull (communicated through top management)

Corporate strategy and top management level

New President, strategy redefinition and strategic development programs launched in 2005

Top management adopts the people flow concept as part of corporate vision (2007) and strategy (2008), implementation of the 'Innovative People Flow Solutions' strategic development program throughout the organization

Preparations for new business development team, Business Owner recruited

New business development team AIS officially established in 2012

Building new processes and capabilities for the solutions business in AIS, steering People Flow Intelligent Solutions development in R&D

R&D and middle management level

Optimal User interface project, team names their approach to the end-user journey as 'people flow' in 2005

DELI project, IDE300 product development

Workshop to gather ideas about solutions

Ideas gathered, presented to Solutions Board, resources granted to R&D

| 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013-2015 |

59

Coding interviews

While the Event Structure Analysis helped in analyzing the key events and clarifying their causal relations, I was unable to analyze the underlying processes behind the events without further tools for systematic qualitative analysis. Due to the large amount of interview data, I coded interview transcripts using Computer Assisted Qualitative Data Analysis Software (CAQDAS) called Atlas.ti. I started the coding process in December 2016 and coded interviews until the 30th interview in February 2017. First, I returned to the preliminary analysis carried out by applying ESA. I examined the timeline produced by ETHNO that I had also discussed with a key informant and used the key events of the timeline to formulate the first set of codes. The codes were formulated as acronyms reflecting each key event. I defined also the time period to which each code was related to and maintained a memo briefly describing each code.

I read through each interview transcript in Atlas.ti and assigned codes to sections of text that I identified as relevant. The sections of text that I assessed relevant involved for example activities related to the event, interpretations of why events unfolded as they did, and insights about the organizational structure as well as the strategic context. As coding progressed, I created new codes along the coding process and also merged some codes together when I noticed they described similar issues. Altogether 44 codes were applied. Another step I conducted as the coding progressed, was the creation of code groups (Figure 5) that represented wider temporal themes throughout the analyzed time period. I formed eight code groups involving key themes in the examined time frame. I categorized each code into these code groups, which ultimately included three to eleven codes each. Figure 5 below presents a screenshot of these code groups on the left, codes within the Strategy code group on the right with an example of a code description below.

The code groups provided more structure to clarify the temporal themes along the analyzed time frame and thus helped to streamline coding.

Code Groups		Show codes in group **Strategy**		
		Name	Grounded	Density
AIS (11)		Strategy- New strategy implementation~		57
Fubu (3)		Strategy- People flow adopted into strategy~		27
Industry (3)		Strategy- pre-2005		6
Organization (4)		Strategy- Setting new vision		15
PFI (6)		Strategy: Historical development at Kone		2
R&D (6)		Strategy: New CEO renews strategy~		26
Strategy (6)				
Workshop & Solutions Board (5)				

Comment:
Matti Alahuhta renews Kone strategy, top-down deliberate strategy 2005

Figure 5 Code groups used to categorize codes by key themes in Atlas ti

Once I had coded 30 interviews, I produced printouts of the code groups and reviewed the printouts in the order of the temporal events. The printouts

included all the selected text sections that I had coded, thus providing a combined set of interview insights in a compact format. I reviewed each printout and analyzed this data iteratively with the other data sources. This step in the data analysis proc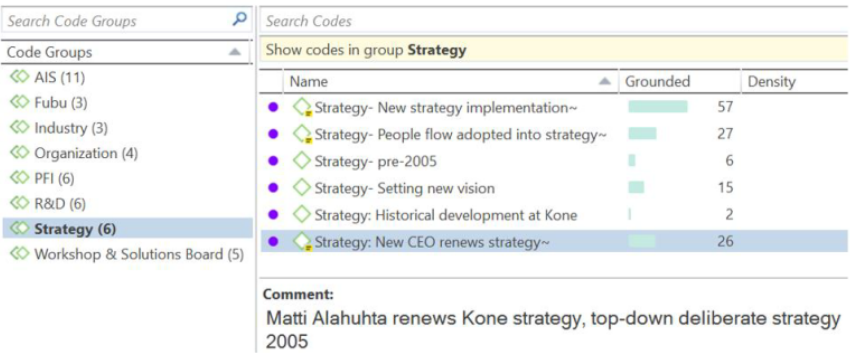ess led to producing a more detailed historical account around the key events by the end of 2017. I also chose part of the quotes at this stage of analysis with the aim of portraying perspectives from all the key phases in the historical account, from multiple managerial levels and from across the organization.

Applying temporal bracketing strategy

I applied Langley's (1999) temporal bracketing strategy to organize the historical account into four discrete yet connected temporal phases. These temporal phases are introduced in Chapter 4, in which the historical account is presented in a narrative format with main themes within each temporal phase divided into sections. As Langley (1999) suggests, the temporal bracketing strategy enables analyzing how the context in one phase is changed by the respective events and how this influences the activities in the successive phases. Following this strategy, the aim of the description in the historical account was to depict how the key events shaped the context of each phase and affected events in the subsequent phase, while also distinguishing the phases from each other by describing the events that reflected particular activities within each phase. In 2017 and 2018, I conducted three more interviews regarding issues which I had identified during data analysis as requiring further clarification or additional information.

To verify the detailed timeline and the structure of the main temporal phases in the historical account, I presented the tentative timeline of key events in a seminar with five key informants of the AIS business development team in January 2018. The seminar involved presenting a preliminary analysis of the study in an informal setting, in which the key informants commented on the key events discovered in the analysis. The finalized historical account was also later reviewed in November and December 2019 by two key informants that I had previously interviewed and by a third key contact, who at the time of the review in December 2019 was in a top management position at the KONE business organization.

After producing the Historical account presented in Chapter 4 according to the temporal bracketing strategy, I compiled the Findings chapter (Chapter 5) to connect the historical account with the theoretical background of the study. The iterative data analysis during the formulation of the historical account had raised two specific periods in the timeline with activities related to the exploration-exploitation transition. Considering the research question "How do induced and autonomous strategy processes evolve over time in exploration-exploitation transition in a large organization with an established core business?", I analyzed these two time periods by identifying both induced and autonomous strategy process activities. I then reflected these temporal strategy process activities against the theory to derive core concepts in the induced and autonomous strategy processes to reflect the exploration-exploitation phenomenon under investigation. Under these core concepts, I derived specific

mechanisms based on the induced and autonomous strategy process activities and reflected them in light of the theory. The Findings chapter (Chapter 5) presents a conceptual framework with these core concepts, the related mechanisms and key references in the literature, and the way that the mechanisms empirically manifested in the induced and autonomous strategy process activities in the case. Based on the conceptual framework, I derived the contributions of the research. Chapter 6 describes these contributions by presenting the identified mechanisms in detail as part of the theoretical model presented in this dissertation.

3.4.6   Quality of the study

In qualitative research, ensuring the quality of the research through validity refers to the researcher checking that the findings are accurate and correctly describe the real phenomenon under enquiry (Gibbs, 2007; Creswell, 2009). In this research, I have followed Creswell's (2009) validity strategies to evaluate accuracy. First of all, by utilizing various different data sources to triangulate, it has been possible to build the justifications for the areas under inquiry, thus contributing to the validity of the dissertation (Creswell, 2009). Therefore, data triangulation has been used to verify the interview respondents' answers by asking the same questions from multiple interview respondents as well as by verifying data from other data sources. Corroborating evidence by using documents (Yin, 2003) was applied in the form of confirming events in the archival data and publicly available company reports. Data triangulation was employed particularly to verify key events and related activities throughout the investigated time frame. With discussions reflecting events in retrospect, interview respondents do not need to worry how their responses might influence project outcomes or their careers (Kannan-Narasimhan & Lawrence, 2018; Danneels, 2010). As mentioned in Section 3.4.4 on the method of data collection, discussion with interviewees was open as interviewees mostly reflected on past events. This, together with minimizing the elapsed time between the investigated events and time of the interviews (Huber & Power, 1985), ensured eliciting accurate information in the interview. The strategies used to mitigate retrospective bias are described in detail in the data collection and data analysis sections (Sections 3.4.4 and 3.4.5, respectively).

Another strategy for validity that I followed was using rich, thick descriptions to present the findings (Creswell, 2009) in the Historical account (Chapter 4). The purpose of this validity strategy is to provide the reader with a window into the particular research context of the study, which enables a rich and realistic way of describing the multiple perspectives that applied to the research setting (Creswell, 2009). This was also the purpose of the rich and detailed historical account of the dissertation, as multiple viewpoints from interview informants across managerial levels and different parts of the organization were described throughout the investigated time frame.

I also utilized member-checking as a validity strategy, which refers to taking specific parts of the case analysis or the entire final report back to the case study informants for review and comment (Creswell, 2009). Reviewing the draft

findings of a case study allows reviewers to check the accuracy of the factual events, to present possible disagreements and additional information (Yin, 2003). I followed the member-checking strategy by presenting a detailed analysis of the analyzed events for a key informant in February 2017 as well as by discussing and reviewing the analysis. I presented an updated analysis and the timeline of key events in January 2018 in a seminar for a set of five key informants whom I had previously interviewed. By reviewing specific parts of the case analysis in these occasions, I was able to check for the validity of the findings throughout the data collection process. As suggested by Yin (2003), this procedure allowed me to also confirm the multiple perspectives of different informants that I incorporated in the case analysis. In terms of member checking of the full findings section (Creswell, 2009), the historical account of the study was reviewed in November and December 2019 by two key informants that I had previously interviewed and by a third key contact, who at the time of the review in December 2019 was in a top management position at the KONE business organization. As noted by Yin (2003), following this reviewing strategy allowed me to increase the construct validity of the case study. Construct validity involves "establishing correct operational measures for the concepts being studied" (Yin, 2003: 34). While it is important to report the various perspectives arising through this procedure, the researcher is allowed to present their own interpretations based on all the evidence analyzed (Yin, 2003). This reviewing procedure allowed me to confirm and bring more insights to the findings, while confirming my own interpretation presented in the historical account.

In qualitative research, generalization from findings outside of the context of the study is not the intent of inquiry (Creswell, 2009). Rather, the value is derived from the context-specific representation of the research site (Creswell, 2009). The critique on the problem of generalizability of the findings as the measure of external validity in case studies derives from the incorrect comparison of case study research and survey studies (Yin, 2003). The statistical generalization of survey studies is incompatible with the analytical generalization of case study research. Analytical generalization in case study research refers to generalization of the findings to a broader theory (Yin, 2003). The theories in which the findings of this study are generalized are organizational ambidexterity theory (e.g., Tushman & O'Reilly, 1996; Raisch et al., 2009) and strategy process theory (e.g., Mintzberg, 1978; Burgelman, 1983). This is carried out as theoretical elaboration, which refers to linking the case study findings to particular theoretical concepts, models, or tools (Schwandt, 2007). The aim in theory elaboration is to support, refine, or challenge theory, rather than to test one (Schwandt, 2007).

The reliability of the study in qualitative research refers to the consistency of the researcher's approach in generating findings across different circumstances and researchers (Gibbs, 2007; Creswell, 2009). As suggested by Yin (2003), an important way to ensure reliability in case studies is to "maintain a chain of evidence" (Yin, 2003: 105). Providing this chain of evidence refers to the researcher detailing the type of data and the analysis process applied throughout the investigation in order for an outside observer to be able to follow

the process from any direction (Yin, 2003). This includes the researcher carefully documenting all the data sources and the circumstances under which data was collected. The case study report should include sufficient references to specific data sources, ensuring that an outside observer with access to the data and the records is able trace the evidence. The outside observer should be able to follow the data collection and analysis process laid out by the researcher, to cross-check the methods used to derive the findings and conclusions throughout the case study (Yin, 2003). To provide the chain of evidence in this study, I detailed the data sources, the data collection, and analysis processes in order for an outside observer to be able to follow my way of arriving at the findings and conclusions. I specified the types of data that I collected and analyzed during different periods to provide clarity for the chain of evidence throughout the investigated 12-year time frame. In the Historical account, I refer to issues specifically emphasized by interview informants and provide quotations that can be traced back to the transcripts.

To ensure reliability, an issue to consider in coding large datasets is to avoid definitional drift. Definitional drift may occur in the form of differently coding material in the dataset as coding proceeds, leading to the data being coded inconsistently in the beginning and at the end of the coding process (Gibbs, 2007). As suggested by Gibbs (2007), one strategy to avoid definitional drift is to keep track of the ideas for the codes in memo descriptions. I applied this reliability strategy when coding interview transcripts with Atlas.ti by writing my reasoning behind the code definitions in a separate memo, which I consistently referred to during the coding process. This way, I ensured consistency in the coding procedure and, as Gibbs (2007) suggests, contributed to the reliability of the study. Another way that I applied to enhance the reliability of the study was checking the interview transcriptions for mistakes (Gibbs, 2007). As I used a transcription agency for 15 out of the 32 interviews, it was necessary to check the accuracy of the parts in the transcripts in which the interview informants had for instance used abbreviations regarding certain events.

4. Historical account of the exploration-exploitation transition of people flow solutions at KONE

4.1 Background

This chapter presents the historical account of the empirical study conducted in the research setting of the KONE Corporation. The chapter begins by providing an overview of the corporate strategy periods that prevailed at KONE during the focal time period from 2004 to 2015. This is followed by a brief introduction of the historical account including the main identified phases in the historical account, supported by an illustrative timeline of the key events within the time period (Figure 6). The historical account follows thereafter, comprising a detailed description of the case study according to the identified phases over the investigated time period. As mentioned in the previous chapter (Chapter 3) on the methodology applied in this dissertation, the case under investigation is a strategic project, which transforms in content and shape over the course of the investigated time period (Van de Ven & Engleman, 2004; Sminia, 2009; Poole et al., 2000). The historical account depicts how these transformations occur, describing the induced and autonomous strategy process activities. This historical account also depicts the analysis in four main phases that were discerned from the data.

4.2 Corporate strategy periods of KONE 2004 2015

Table 4 portrays the corporate strategy periods of KONE based on published corporate material such as annual reports during the investigated 12-year time frame from 2004 to 2005. These strategy periods in the table depict the strategic development programs (Must-win battles), which were launched at KONE for three years at a time starting in 2005. The strategy period of 2001-2004 was included in the table in order to take the corporate strategic context of the first analyzed year of 2004 into consideration. The periods provide an understanding of the official corporate strategic context, in which the events presented in the historical account occurred.

Table 4. The corporate strategy periods according to KONE Strategic development programs

Period	2001-2004	2005-2007	2008-2010	2011-2013	2014-2016
CEO / President	Manfred Eiden, President Antti Herlin, CEO 1996-2006	Matti Alahuhta, President 2005-2014, CEO 2006-2014 Antti Herlin, CEO 1996-2006	Matti Alahuhta, President and CEO	Matti Alahuhta, CEO and President (until 03/2014)	Henrik Ehrnrooth, CEO and President (beginning 04/2014)
Strategy	"KONE's strategic goals are to increase the harmonization, growth, and profitability of the company." (KONE Annual report 2001, p. 10. Published 02/2002) "KONE's 3G strategy (globalization, growth and gain) supports stakeholder objectives of safety, professionalism, responsibility and caring for the environment." (KONE News & Views 03/2001, p. 9; KONE News & Views 01/2003, p. 47)	"KONE gives a performance edge to its customers with innovative services and solutions. Simultaneously, KONE's products and services are cost-competitive and its processes characterized by globally aligned operational excellence." (KONE Annual report 2005, p. 3. Published 02/2006)	"KONE delivers a performance edge to its customers by creating the best user experience with innovative People FlowTM solutions. Simultaneously, KONE's people leadership and processes enable operational excellence and cost competitiveness." (KONE Corporate Responsibility Report 2009, p. 17. Published 2010)	"Our strategy is to deliver a performance edge for our customers by offering innovative, cost competitiveness, and eco-efficient solutions that move people with ease, safety, and comfort." (KONE Corporate Responsibility Report 2011, p. 8. Published 2012)	"Our strategy is to differentiate ourselves by delivering the best user and customer experience with Innovative People Flow solutions." (KONE Sustainability Report 2014, p. 8. Published 2015)
Vision	"KONE's purpose reads as follows: "KONE moves people and goods in reliable, innovative, dedicated, and responsible ways that add sustainable value to our customers' business and end-users' lives" (KONE News & Views 01/2003, p. 5.)	"KONE's vision is to offer the best people flow experience by developing and delivering solutions that enable people to move smoothly, safely, comfortably and without waiting from one place to another." (KONE Annual report 2007, p. 2. Published 02/2008)	"KONE's vision is to deliver the best People Flow™ experience." (KONE Corporate Responsibility Report 2009, p. 7. Published 2010)	"KONE's vision is to deliver the best People Flow™ experience." (KONE Corporate Responsibility Report 2011, p. 8. Published 2012)	"KONE's vision is to create the best People Flow® experience by moving them smoothly, and comfortably in and between buildings." (KONE Sustainability Report 2014, p. 8. Published 2015)
Strategic development programs	Not applicable (Strategic development programs / Must-win battles were launched in 2005)	"Customer Focus, Product & Service Portfolio, Operational Excellence, Global Sourcing, Escalator & Door Strategy" (KONE News & Views 03/2005, p.3). Fifth program changed to "strengthening KONE's position in the Asian market" (KONE Annual report 2006, p. 4. Published 02/2007)	"Customer Focus, People Flow Solutions, Environmental Excellence, Operational Excellence, People Leadership" (KONE Corporate Responsibility Report 2009, p. 17. Published 2010)	"Customer Focus, People Flow Solutions, Environmental Excellence, Operational Excellence, Innovative Solutions for People Flow™, Service Leadership, Delivery Chain Excellence." (KONE Corporate Responsibility Report 2011, p. 8. Published 2012)	"First in Customer Loyalty, A Winning Team of True Professionals, The Most Competitive People Flow™ Solutions, Preferred Maintenance Partner, Top Modernization Provider" (KONE Sustainability Report 2014, p. 8. Published 2015)

The historical account introduced next in section 4.3. take these official strategy periods presented in Table 4 into account, yet represent temporal phases that were identified relevant in terms of events related to exploration-exploitation transition during data analysis. Thus, the phases presented in the historical account follow the temporal bracketing identified during data analysis rather than the corporate strategy periods.

4.3 Introduction to the historical account

The following historical account provides a detailed description of the empirical case study, depicting the induced and autonomous strategy process activities in exploration-exploitation transition on multiple managerial levels throughout the investigated twelve-year time frame. Table 5 below presents the four temporal phases that were identified in data analysis, which the historical account presents as sections from 2004 until 2015. The main themes within each temporal phase are categorized into sections.

In the first phase (2004-2005), the ideas for the solutions development emerged at the middle management level in the R&D department in 2004. The second phase (2005-2009) describes how the ideas were further developed in the DELI R&D project, in which a product called IDE300 was developed. The third phase (2010-2011) describes the triggers that influenced top management level activities to assess the state of solutions development and to begin preparations for the business development team establishment. The fourth phase (2012-2015) is a significant phase in terms of establishing a focus on exploitation, to begin building the business operations for the solutions offering.

Table 5. Phases and sections of the historical account

Timeline	Phase	Section
2004-2005	**Phase 1**: Initiative and first project emerges	▪ End-user journey in the Optimal User Interface project in R&D
2005-2009	**Phase 2**: Product development & strategy renewal	▪ Vision of the product concept in the DELI project ▪ Redefining corporate strategy
2010-2011	**Phase 3**: Triggers to prepare for business team establishment	▪ Competition triggers workshop and R&D Solutions Board presentation in 2010 ▪ Strategic vision as an internal trigger to prepare for business team establishment
2012-2015	**Phase 4**: Business team established & product launch	▪ Establishing AIS business development team ▪ Launch of People Flow Intelligent solutions in 2013 ▪ Integrating PFI solutions into the existing processes and systems ▪ Reorganizing the AIS team in late 2015

The key events identified in these four main temporal phases in the investigated timeline are illustrated in the following timeline (Figure 6). The timeline aims to visualize how the key events progressed from the first activities in Phase 1 to the last identified key event that defines the end of the investigated time period at the end of Phase 4. After the timeline, these key events in the historical account are described in detail according to the four phases identified.
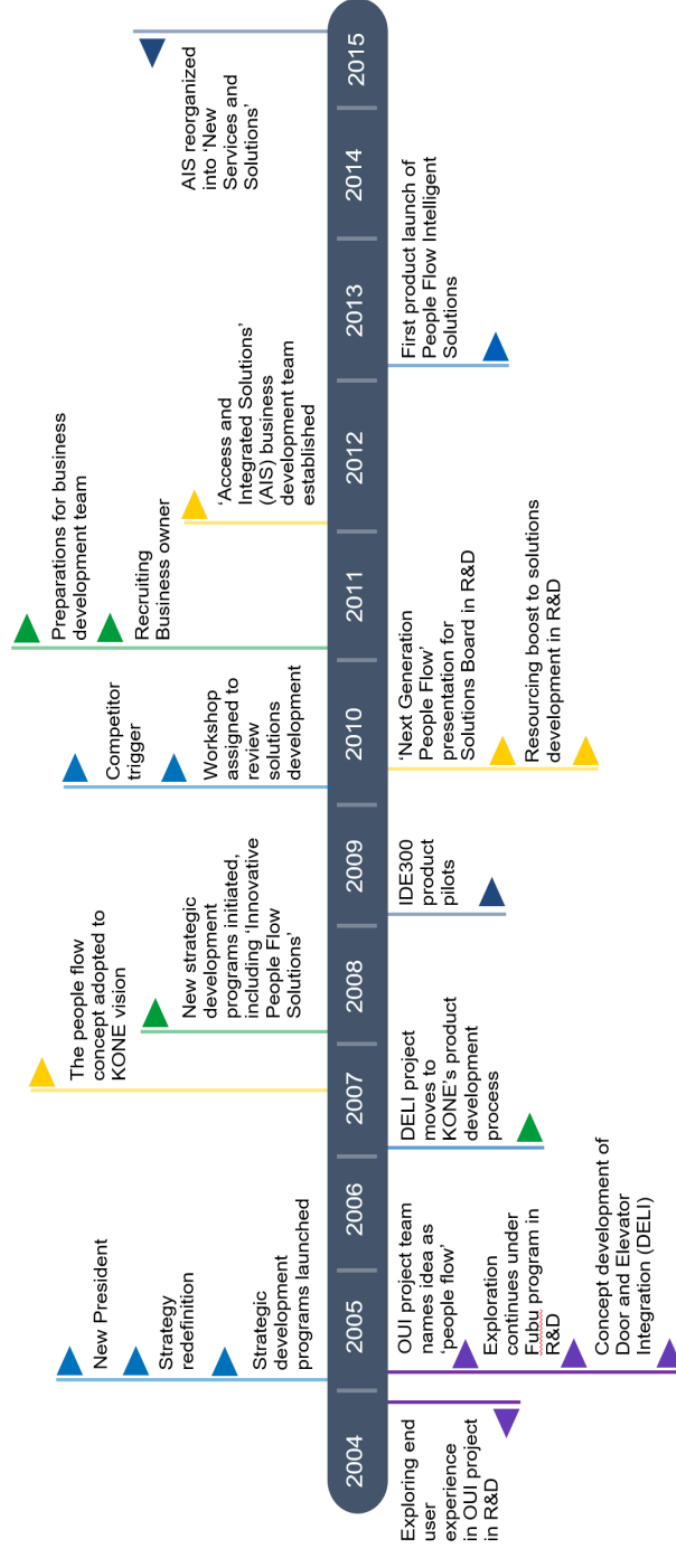
Figure 6. Timeline of key events

4.4 Phase 1: Initiative and first project emerges (2004 2005)

4.4.1 End-user journey in the Optimal User Interface project in R&D

In autumn 2004, a manager in KONE R&D discussed with the R&D Director and requested to work in a completely new field of interest. The R&D Director had a vision that this new field should focus on exploring user interfaces for elevators based on the possibilities in connecting elevator control systems with different market segments. A study on user interfaces in the hospital segment had already been carried out in R&D the previous year in 2003. The R&D Director answered the manager's request by appointing him to a new project called 'Optimal User Interface' (OUI). The OUI project operated under the R&D department and was funded from the existing R&D budget. The OUI project had a relatively open scope to explore new areas of inquiry in the user interface area. Prior explorative projects at KONE had mainly focused on technological properties, such as elevator lifting technologies, but the OUI project focused on user interfaces of multiple user segments.

An industrial designer, a psychologist, and an engineer joined the project manager in the OUI project, and together they formulated their approach to user interfaces based on the user experience of the end-users. The OUI team studied end-user needs in various user segments by observing and participating in end-user studies. For instance, the team observed the mobility issues that end-users experienced when entering residence buildings with shopping bags or strollers. Previously, user interfaces had been considered at KONE R&D for instance in the design of elevator signalization panels. In the beginning of the project in 2005, the OUI team produced a video to display their vision of the overall service experience for the end-users. The video showed how a person visiting an office building is recognized upon entering the building and an elevator call is made based on a confirmation on the visitor's mobile device. As the visitor makes their way through the lobby, an elevator arrives based on the call already made to the destination floor.

> "We thought that as we have the elevators, escalators and doors, could we make our existing offering stronger. We thought about this particularly as something that would strengthen the existing offering and organization."
> - Director, Access and Integrated Solutions

The OUI team named this idea 'people flow', which reflected the team's vision of making the movement of people in and between buildings easier by bringing together services and products into an integrated entity. By employing the people flow concept, the OUI team broadened the underlying idea behind user interfaces from elevator signalization designs to a wider concept portraying the entire end-user journey with an emphasis on overall end-user experience. In this way, the OUI team generated the people flow concept to portray their approach to user interfaces. By developing new concepts for user interfaces, the team described that their intention was to strengthen and complement KONE's

existing products of elevators, escalators, and automated doors. The project manager at the time described this in the following way:

> "We don't think about people flow as a new market. We don't change from the elevator business into a people flow business. It is more like an approach, in which we aim to understand the value production of the customer and the needs of the end-users, so that we could best provide solutions to both challenges."
> - Project Manager, R&D

In terms of product and solution concepts, the OUI team generated several ideas, some of which led to patent registrations. The Optimal User Interface project lasted approximately a year, after which the OUI team was reorganized in the R&D department.

4.5 Phase 2: Product development & strategy renewal (2005-2009)

4.5.1 Vision of the product concept in the DELI project

In 2005, the R&D team members that had been involved in the OUI project continued their exploration efforts under the 'Future Business in Future Buildings' (Fubu) program, which was an umbrella term for a variety of future-oriented R&D projects at KONE. The Fubu team developed a residential building concept named 'Door and Elevator Integration' (DELI). DELI was based on the idea that upon entering a building, the resident identifies oneself with a key card that results in the door opening, the elevator being called, and the corridor lighting up. In 2007, DELI moved from an explorative concept phase to the official R&D product development process of KONE and was assigned a project status in the R&D department. The DELI concept was first piloted in a residence building in Finland, after which pilots were also carried out in other European countries.

The DELI project competed for resources with other projects in the R&D department involving core elevator and escalator products of KONE. In order to retain the DELI project status and funding at the R&D department, the DELI team engaged in internally selling the idea of the DELI concept within the KONE organization. Due to the differences of DELI compared with R&D projects related to core products, the team concluded that it was important to present the value of the DELI concept through visualizations. For this purpose, in-house marketing materials, such as a video, were produced. In the video, the people flow concept was employed to represent the meaning of the DELI concept as the value for the end-user. In addition to the visualizations that portrayed the end-user journey, the DELI team also provided market and financial analyses on the potential of the concept. Interview respondents mentioned it was challenging to provide arguments for a concept such as DELI. They mentioned the uncertainty related to digitalization in the mid-2000 as one of the issues to potentially influence resource allocation for the concepts developed in the Future Business in Future Buildings program.

"At the time, the user interface, destination control system, and spreading of digitalization and issues like that, there was uncertainty related to them. Which means it is more difficult to get the resources."
- Research Director, R&D

In 2007, an initiative was presented in the R&D department to establish a cross-unit steering group for the DELI project. The initiative included a request for top management involvement from both the R&D department and Business organization. The initiative for the steering group involved the idea of reviewing the development of the product developed in DELI in the international sales organizations and to extract top management input from the country sales organizations in which the product was piloted. The steering group was established, involving managers across different units from R&D and Business. Interview respondents mentioned that no other R&D project had previously had a similar cross-unit steering group at KONE.

The outcome of product development in the DELI project was a product named IDE300, which was brought to market in 2009. Specific salespeople, named champions, were assigned to be in charge of developing the sales of IDE300 in the country sales organizations. Workshops and training sessions were arranged for sales personnel to go through the conceptual, technological, and strategic issues of IDE300. The people flow concept was employed in the sales argumentation of IDE300, which required the sales personnel to learn to explain the value of IDE300 as an end-user experience. This involved explaining the additional costs that would occur for customers in addition to the elevator and escalator sales, as the idea of IDE300 was to unite existing KONE products. The incentive system for sales personnel was set up for IDE300 sales, to accompany the bonuses and targets that were set up for the sales of the existing core products.

At the top management level, the business development of IDE300 was reviewed in Solutions Board meetings at the R&D department. The Solutions Board was an executive-level body that had been established to oversee that the technological development in R&D was in line with the KONE strategy and to make the most significant decisions on future directions in R&D. The Solutions Board reviewed IDE300 in a meeting in 2009, during which the business aspects of the concept were analyzed. According to interview respondents, discussion around IDE300 was positive, but the business model raised questions.

"...how will you make this, who will buy this, what will be the price, where can you sell this, who will maintain it. These types of questions always pop up."
- Director, Sales support and operations, Access and Integrated Solutions

The multiple aspects that top management considered in the decision-making regarding the business development of IDE300 included the practicalities related to the operational business, such as lifecycle management. Interview respondents mentioned that the DELI project was technology-led and although

business development aspects were addressed, for instance, in the cross-unit steering group, no dedicated party in the business organization assumed ownership in leading business development. IDE300 sales were carried out in principle through separate pilot projects; and after sales, responsibility for maintenance transferred to the Service Business organization. While IDE300 received positive feedback from the end-users of the residence building pilots, interview respondents reported that, after 2009 and 2010, sales did not grow beyond the separate pilot projects. The cross-unit steering group did not continue further after 2009. IDE300 remained KONE's offering and the R&D department continued with solutions development in the user interface and customer experience areas.

4.5.2 Redefining corporate strategy[3]

A central milestone of strategy redefinition took place in January 2005, when Matti Alahuhta began as the new President[4] of KONE and started a process of transforming the corporate strategy and process architecture of KONE. In his leadership book 'Johtajuus', published in 2015, Matti Alahuhta describes how he first visited the offices of KONE outside of Finland to familiarize himself with the people operating particularly in KONE's functions in Asia. In February 2005, a five-day strategy renewal workshop was organized in Finland. The workshop was attended by 25 key managers with facilitation being supported by an outside consultant and a strategy professor. The decisions that were made based on the workshop involved major changes for the KONE corporate strategy and organizational processes. The redefinition of the new corporate strategy was formulated in five major strategic development programs called 'Must-Win Battles' (MWBs). President Alahuhta had been introduced to the Must-Win Battles term by IMD business school professors, Peter Killing and Thomas Malnight, who published the first version of their book about Must-Win Battles in 2005. The idea of the strategic development programs was adopted for the new strategy implementation at KONE. The five programs were called Customer Focus, Product and Service Portfolio, Operational Excellence, Global sourcing, and Asia-Pacific. These development programs were set for the next three years from 2005 until the end of 2007. The programs were assigned program owners, and the Executive Board of KONE reviewed the progress of the programs on a monthly basis (Alahuhta et al. 2015).

The strategic development programs were globally introduced through workshops that were organized in Helsinki, Chicago, Hong Kong, and Brussels from March to April in 2005. About a hundred KONE employees participated in each workshop to discuss the new strategy. The meaning of the changes brought by the new strategy was communicated further at the team level by assigning multiple facilitators in each country organization. The strategic changes were communicated also through staff magazines, 'letters from the

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[3] Main data source of the section is: Alahuhta, Häikiö & Seppänen (2015) *Johtajuus.* Docendo: Jyväskylä

[4] President = Toimitusjohtaja, CEO = Pääjohtaja. Source: https://www.kone.com/fi/yhtio/organisaatio-ja-johto/hallitus.aspx (retrieved 17.9.2019)

President' e-mails, and intranet. The change communications activities were measured on a monthly basis, and the direction of the results received from employee and customer satisfaction surveys were closely monitored (Alahuhta et al. 2015).

The strategic changes of 2005 also involved a major reorganization of the KONE organization, as a demerger in June 2005 resulted in the establishment of separate structures of the cargo-handling company Cargotec Corporation and KONE Corporation. KONE Corporation was reorganized into a matrix of four areas including Asia-Pacific, West and South Europe, Central and North Europe, and North America, as well as three business lines including New Equipment Business, New Service Business, and Major Projects. The global management of KONE was centralized in the corporate offices in Espoo, and the country organizations were assigned area leaders (Alahuhta et al. 2015). The following section of a stock exchange release published in April 2005 described the change:

> "In anticipation of the demerger, KONE Elevators and Escalators business organization will be developed by clarifying and strengthening the matrix consisting on the one hand of global business units and on the other of areas comprising local sales and service companies. As a consequence, KONE's area directors will become members of the Executive Board. The objective of these developments is to increase customer focus, to become faster and better in responding to the differing needs of various market areas and to improve the productivity derived from common global functions and processes. After the changes, the KONE management will be located more evenly across the company's main market areas."
> - Release 'KONE Announces Organizational Changes', published 26.4.2005

Another central strategic change was the renewal of the KONE process architecture, which began in September 2005. The new process architecture was named the 'KONE Way' and included Customer, Delivery, Maintenance, Solution creation, as well as Management and Support processes. These five key processes were assigned owners to develop and ensure both unified practices as well as ways of working in each process, with the goal to offer a solid customer experience when doing business with any of the KONE country organizations (Alahuhta et al. 2015).

The next significant milestone of strategy redefinition began in 2007, when the first must-win battle strategy development programs initiated in 2005 were approaching the end of their first three-year phase. The activities carried out to prepare for the redefinition of the must-win battle programs involved research on mega trends, which highlighted aging of the population, urbanization, and safety and environmental issues as key areas. In an Executive Board meeting in August 2007, the corporate vision of KONE was discussed. In his leadership book, "Johtajuus", Matti Alahuhta mentions that a member of the Executive Board introduced a new concept called 'people flow' during the discussion. As a result, the people flow concept was incorporated into the vision of KONE, articulated as "KONE delivers the best people flow experience". Furthermore, the slogan of KONE at the time "In the heart of your building" was replaced with

"Dedicated to people flow". In addition to the corporate vision, the people flow concept was adopted into one of the new strategic development programs, named 'Innovative People Flow Solutions' (Alahuhta et al. 2015).

> "Our mission with the People Flow Solutions development program is to develop high quality solutions based on our traditional strengths, while creating the desired user experience and providing the best life cycle performance."
> - KONE 2008 Corporate Responsibility Report, p. 18

The Innovative People Flow Solutions must-win battle program was initiated for the next three-year period from 2008 to 2010 with a dedicated middle management team being assigned to implement the program across the KONE organization from 2008 to 2009. Other new must-win battle programs initiated in 2008 were Environmental Excellence and People Leadership, while the Customer Focus and Operational Excellence programs continued (Alahuhta et al. 2015).

The manager assigned to lead the implementation of the Innovative People Flow Solutions must-win battle program from the business organization was the same manager that had been involved in the OUI and DELI projects in KONE's R&D department. To implement the development program, the activities of this team involved discussions with KONE employees from across the organization. The team approached these discussions by elaborating the meaning of the people concept in terms of each employee's respective job description. Interview respondents that had been part of the implementation team noted that during these implementation discussions the people flow concept appeared to be ambiguous for many employees. They mentioned that this appeared to derive from people flow representing such an abstract idea of end-user experience, rather than a technological innovation. The team manager of the implementation program team mentioned that had there existed a concrete product related to people flow solutions at the time, the execution of the development program implementation would have been easier. This is because many KONE employees reflected an engineering- and product-centered perspective to their work and may have perceived the concept better had they been able to have the discussions from a product perspective. The Innovative People Flow Solutions must-win battle program was also retained for the three-year strategy development periods starting in 2011 and 2014.

4.6   Phase 3: Triggers to prepare for business team establishment (2010 2011)

4.6.1   Competition triggers workshop and R&D Solutions Board presentation in 2010

Although the business case of IDE300 led mainly to separate pilot projects in 2009 and 2010 and not to a large scale-up, the solutions development continued in the R&D department, where more emphasis was laid on user interfaces, end-

user experience, and design aspects of KONE's offering. An interview respondent describes this period:

> "From 2004 until maybe 2007, the development was R&D-led, one could say even pushed by R&D. We worked on the concepts and ideas about what this could be. The business side was listening and there were people in the business side, who understood this, but there were no discussions about business ownership. Then one could say that around 2008 to 2010 was a waking up period in the business side, and we had discussions at the Solutions Board and Executive Board level that we need to do something else."
> - Former SVP KONE Technology and R&D

In 2010, activities in the market environment of KONE triggered the top management to react to the solutions development. A competitor that had recently launched a new solutions offering had won tenders over KONE. Another external trigger was that both existing and potential customers had requested KONE bring new solutions to the market. Top management reacted by assigning a review of the existing knowledge and competence base regarding solutions development in the form of a workshop, which was organized at the KONE R&D department together with KONE's Technology organization. The goal of the workshop was to evaluate the prevailing state of solutions and to gather ideas. KONE employees participated in the workshop from various geographical areas, different business units, and technological areas. Participants consisted mainly of middle managers and many of them had experience of realized business cases from different segments or with previously developed solutions in R&D.

After the workshop, a small team in R&D compiled the ideas generated in the workshop and decided to develop them further. The R&D managers in the team used their own initiative in refining the workshop ideas and invested their time also outside of official working hours. The team evaluated that there was a need to increase resources for the solutions development in R&D and began building a presentation for a Solutions Board meeting to request resources. The team used the material gathered from the workshop and titled their presentation 'Next Generation People Flow'. According to interview respondents, the adoption of the people flow concept in the corporate vision in 2007 and strategy in 2008 had created an expectation at KONE to see how the renewed vision and strategy would be realized at the product level. A sales director described this in the following way:

> "I think when the People Flow term was being promoted, it does sound like a nice term but then we wanted something concrete about what it means… So, this presentation supported that this is what People Flow could mean."
> - Director, Sales support and operations, Access Control and Integrated Solutions

Before the Solutions Board meeting, the team received feedback in concept development meetings in R&D from two top managers, who were members of the Solutions Board. This feedback indicated that a significant amount of effort should be invested in the presentation. This feedback confirmed the team's idea

that it would be essential to visualize the people flow concept for the presentation. Visualizing the concept was important, because at such a conceptual stage the potential of the solutions offering was challenging to rationalize with financial forecasts. Therefore, the team used a third-party marketing agency to visualize their vision of the people flow solutions concept. Interview respondents in R&D mentioned that this was the first time at KONE that so much effort was applied to a presentation. In this way, the R&D managers engaged in legitimacy-building activities, although the concept was already part of the corporate strategy. The people flow concept was employed in the content of the presentation to describe the ways the solutions would provide convenience to the end-user journey. The different stages of the end-user journey were visualized in the presentation as a storyboard. The main idea of the end-user journey reflected in many ways the same ideology that had been envisioned in the Future Business in Future Buildings program and DELI project in 2004 and 2005. The presentation also aimed to clarify the ways in which the customer, who is often the building owner, would be able to manage and maintain the solutions. Another central part of the presentation content was a roadmap for solutions development, which displayed the targets for development stages from 2011 to 2015.

Two members of the R&D team presented the Next Generation People Flow concept in a Solutions Board meeting that was organized in late 2010. The resource request in the presentation involved mainly technical competence through new recruitments to the R&D department. In addition, the presentation brought forward the need for input from other KONE organizations and support functions. Interview respondents involved in the presentation mentioned that because the development of the 'Next Generation People Flow' concept differed substantially from the development of the core elevator and escalator products, special input would be needed, for instance, from KONE's supply line, maintenance organization, and marketing department. Interview respondents specified that the presentation aimed to convince the Solutions Board that there was a need to increase capabilities to sell, deliver, install and maintain the solutions, and that this would require company-wide commitment.

As an outcome of the Solutions Board presentation, President and CEO Alahuhta decided to grant new funding for the solutions development in R&D. In practice, this resulted in establishing a new team in the R&D department with a focus on solutions development, consisting of employees that were working in monitoring technologies at the time. The team was authorized to expand by recruiting software developers and project managers as well as to explore suitable subcontractors and partners. Interview respondents mentioned that the resource investment showed top management commitment in developing the solutions. The solutions product entity was called 'People Flow Intelligent solutions'. After the Solutions Board presentation, the presenting team was invited to give their presentation at the Executive Board meeting as well, during which the discussion focused on the business and lifecycle management aspects of developing the People Flow Intelligent solutions.

4.6.2   Strategic vision as an internal trigger to prepare for business team establishment

In 2011, top management at KONE began preparing for the establishment of a new business development team named 'Access and Integrated Solutions' (AIS) under the New Equipment business (NEB) line. Although interview respondents did not refer to the vision "KONE delivers the best people flow experience" as the sole reason to establish the AIS development team, the vision was mentioned multiple times as having created an expectation for concrete actions in business. Interviewed in late 2015, when the AIS team was still operating, the EVP of the New Equipment Business line, who was involved in the AIS establishment reflected on this:

> "Perhaps it was particularly the definition of the strategic vision that provided the framework, in which it was easy to see that we should look at this issue in this way and to team up and develop it in this format. If we had been in some other strategic form, it could be that this would not have been found, this opportunity in the same sense. Perhaps then we would have done this in a market reactive mode by reacting to customer needs and competition. But now we have taken a proactive and future-oriented development focus."
> - Executive Vice President, New Equipment Business

The timing was right to take the next steps in creating dedicated resources in the business organization, influenced by the multiple external and internal elements summarized in the following quote:

> "...there was this type of top-down strategic element of influence, and then again a certain pull from the market, and a push from the technology side. And these created a type of momentum. This was one way of doing this, in the situation that we were at that point in time."
> - Executive Vice President, New Equipment Business

In the above quotation, the "certain pull from the market" refers to the requests of existing and potential customers of KONE to bring solutions to the market and the sales won by KONE's competition. The "push from the technology side" refers to the solutions development that was already taking place in the R&D department at the time, which was amplified by the resource allocation decision made based on the Solutions Board presentation. A significant action in preparing for the AIS team establishment was the recruitment of a dedicated business owner under the New Equipment business line. The recruitment was carried out outside of KONE in spring 2011, and the business owner participated in preparing for the establishment of the AIS business team.

4.7 Phase 4: Business team established & product launch (2012-2015)

4.7.1 Establishing AIS business development team

The AIS team was officially established under the New Equipment business line in January 2012. The purpose of the AIS team was to begin building the processes and capabilities for the business operations for the solutions that were being developed in the People Flow Intelligent (PFI) solutions team in the R&D department. The AIS team was unique in the sense that a similar completely new business development team had not been previously established at KONE. The Executive Vice President who was involved in the decision to establish AIS, mentioned that it was critical not to restrict the future outlook of AIS development, but to retain an open future. Establishing the AIS team marked a major milestone for the People Flow Solutions, as there was now a dedicated business team responsible for PFI solutions development. As R&D activities continued with the dedicated AIS business team steering the direction of solutions development, the activities did not solely transfer from R&D to business. The collaboration between the AIS business and R&D teams was realized through weekly meetings, in which the goals were to retain a common direction, open communication, and to evaluate the feedback from the market. In R&D, the importance of having dedicated resources in the business organization was reflected on in the following way:

> "Before there was anything in the business organization, it was really difficult to do these types of things because the smart solutions were competing for funding with the basic elevator or escalator products. When we are talking about such a new future area, it is not possible to show the financial returns compared to the existing… taking this further was really difficult, there was no one on the business side that would have made demands. After the business area for PFI was established, there was pull from the market. Before that the pull came through our Major Projects business organization, who deal with large projects for high rise buildings and airports, where there is demand for these types of solutions, but one project at a time with strong specifics. That does not create the type of systematic work in the same way as there is now."
> - Director, Design Solutions, R&D

Interview respondents in the PFI solutions R&D team mentioned that the establishment of the AIS business team reflected top management's commitment to support the product development of the People Flow solutions at the R&D department, and that the guidance from the AIS business team was necessary to provide direction for the R&D team.

Interview respondents in the AIS team described their mode of working as an internal start up with a hard-working and passionate attitude. The AIS team followed a development roadmap, for which the business owner of the AIS team formulated a strategy with three stages. The goal of the first stage included examining the solutions that KONE had already been developing and deciding how to move forward with them. The second and third stages included goals to

develop the solutions to match and excel competitors. According to the AIS business owner, the AIS team communicated these stages as clearly as possible to gain support from other parts of the KONE organization. The business owner of AIS described the ways of communicating their goals:

> "Lots of trainings and communications, features in internal magazines, videos, blogs, brochures, sales presentations, all types of communications. Pitching in Slush, Twitter, all of that is meant as much for internal communications as it is for external communications. So that our organization would understand that this kind of change is taking place."
> - Senior Vice President, Access Control and Integrated Solutions

Recruitments to the AIS team were made both from inside and outside of KONE, as the type of competences that were needed for building the business were identified. The AIS team included middle managers who had previously worked with the development of the DELI project. The financial investments in the AIS business development team were described as moderate both by top and middle management. The Senior Vice President of the New Equipment Business line, who was behind the AIS establishment decision, noted that the idea behind moderate resourcing was based on retaining agility. Accordingly, agility was important to be able to implement in a rapid go-to-market plan that benefits from gaining experience for continuous improvement. In R&D, PFI solutions development was carried out in collaboration with partner companies, which was another factor influencing the moderation in resourcing. Partnerships were chosen to support solutions development since many of the technologies applied in the PFI solutions were not core KONE technologies. The AIS team faced similar corporate processes and reviews, such as annual budget planning, as did other teams in the KONE organization. Managers in both the AIS business development team and the People flow solutions team in R&D mentioned that their goal was to increase their budget as they considered this to play a key factor in generating faster scaling to market and implementation of the business operations.

4.7.2   Launch of People Flow Intelligent solutions in 2013

The first official product launch event of People Flow Intelligent solutions took place in 2013, in which the four themes of the solutions were introduced. These themes were access control, destination guidance, information communication, and equipment monitoring. Respondents from the AIS team mentioned that seeing the effort invested by KONE in the visibility of the PFI solutions launch event provided increased confidence for the team. The AIS project manager described this:

> "Each month we were presenting in the Executive Board meetings, and huge launch events and customer events were built around us, in which hundreds of customers were invited and press releases were made. Sure, these types of things make it concrete that wait a minute, now we have really made it to the core of this company, and to do things that the Executive Board is interested in, and which

the communications department communicates and the marketing department turns into marketing. These are the type of concrete issues, when we were not alone anymore but the entire organization was working for our case."
- Director, Access Control and Integrated Solutions

Respondents mentioned that the launch of PFI solutions made the work of the PFI team in R&D more tangible for both internal and external stakeholders, as the launch presented how the people flow concept reflects a concrete product entity. This raised the credibility of the AIS team in both the Business and R&D organizations.

4.7.3 Integrating PFI solutions to the existing processes and systems

After the launch, the PFI development team in R&D was reorganized as the PFI software developers were transferred to the KONE R&D software department. Accordingly, this integration was a step towards the full integration of the PFI solutions with the existing systems in the KONE organization. According to the interview respondents, integration of the PFI solutions with the existing systems of KONE was needed because the PFI solutions included components and software which were not recognized by the existing internal processes and systems at KONE. For instance, customer relationship management and enterprise resource planning systems were aligned with the core product offering; thus, the AIS team's work included driving the synchronization of these systems. Integrating PFI solutions with such systems was necessary in order to be able to track for example sales. For information systems and processes, this created a need for new ways of managing the PFI solutions data. The following quote reflects how the change was smoother for R&D compared to the rest of the organization:

> "Kind of this type of new thing in my opinion was not new for R&D, because R&D does new things all the time. However, this is new for the KONE organization as this is not a new elevator or a new escalator. This is new to sell, new to deliver, new to install, new to maintain not a typical product. In that sense, it was probably a bigger issue for the entire organization than for R&D."
> - Executive Vice President, New Equipment Business

In line with the above quote, another interview respondent mentioned that the changes that the people flow concept brought along represented a significant transformation for the entire corporation as it was more about a new business concept than a radical technology innovation. Other interview respondents supported this thought by mentioning that although KONE had introduced radical technology innovations before, these innovations had traditionally represented new additions to the existing offering of elevators and escalators.

A dedicated person with experience of working with KONE processes and systems was hired to the AIS team to create a process model for creating and building the needed capabilities for PFI solutions. This process model included building the entire capability chain from demand creation, sales, tendering,

ordering, engineering, installation and maintenance. The senior manager describes creating the process model:

> "It is about aiming to build the foundations one building block at a time. That's what it is about in a concrete way, the foundations have to be there to be able to build on them."
> - Senior Manager, Access Control and Integrated Solutions

Accordingly, there were some challenges in establishing a way of integrating the PFI solutions into the KONE systems, caused, for example, by the differences in processing information regarding the earlier versions of the PFI solutions. To solve such process integration challenges, the AIS team needed to build relationships across different business units within the KONE organization to reach the appropriate contacts in the functions whose help was needed. This partly relied on the personal networks of the AIS team members to reach contacts inside KONE, who were willing to drive the needed actions forward. Building the processes and capabilities within the organization to be able to manage the lifecycle aspects of the PFI solutions took time, which posed challenges in the beginning, such as finding feasible ways to maintain the first PFI solutions that had been sold.

To support PFI solutions sales in in KONE's country sales organizations, the AIS team built a process model that involved specific actions to build sales capabilities. As the PFI solutions were sold as part of KONE's existing elevator and escalator offering, one of the actions in the process model was to assign main advocates in the country sales organizations. These advocates were named 'PFI champions' and incentive systems were set up for the sales organizations. The AIS team monitored the training of the champions, the completion of business plans, received orders, and the installation of sold solutions. These actions aimed to build the competences to manage the PFI sales in the country sales organizations. In specific cases, such as in the sales of PFI solutions to large-scale projects, the AIS team provided support by traveling to the country sales organization to provide individual support.

There were multiple new aspects from both the sales personnel and customer viewpoints regarding PFI solutions sales. One of these new aspects was to raise customers' awareness of KONE as a solutions provider, as customers were not used to buying all of the solutions directly from KONE. Other new aspects to consider in the PFI sales process included the timing of the sales and the right sales contact in the customer's side, which interview respondents mentioned could be different compared to traditional sales process in elevator and escalator sales. As the former Executive Vice President of the New Equipment Business mentioned, selecting the elevator supplier is traditionally the responsibility of the purchasing department of a construction company. However, selling novel elevator features that provide new end user benefits requires a completely new type of a sales approach that involves collaboration with various actors in the value chain. In order to influence the sales argumentation and pricing of the building, contact with the customer needs to be established in a very early stage before the construction project planning has

been finalized. However, the portion of the total costs that a building developer allocates in elevators has typically been marginal, about one percent. This means that for elevator suppliers it is not self-evident to establish a presence to begin planning the commercialization of the new value propositions with the management of the customer. Accordingly, changing the ways of operating for both the customer and the supplier in this type of a renewal of the value chain is challenging in an industry with long-standing practices:

> "This is not an agile industry such as the for example the smartphone market with rapidly changing features. Commercializing new things is much more challenging than the development of the technological aspect. The new features of the solutions entail a novel value proposition that needs to be argued in concrete terms to the customer. We need to get the developer to think that we are selling a higher price per square meter."
> - Former Executive Vice President, New Equipment Business

The former Executive Vice President of the New Equipment Business continued to mention that a new approach that combines technological ideas with the customer value was mostly still emerging during the investigated time frame and was realized at KONE after 2015.

Another significant aspect in the work of the AIS team was to help raise the sales personnel's confidence in selling the PFI solutions. The sales personnel were used to selling elevators and escalators, and were experienced with their respective technologies as reflected by the following quote:

> "...it is strongly rooted that our salespeople sell elevators. And they have certain processes and routines for that and they know that offering and they have certain margins and certain goals and expectations in how they do it and it's business as usual... Driving that change, if you think about that individual sales person, how do you motivate them so that they now should learn something new and position themselves a bit outside their comfort zone."
> - Senior Manager, Access and Integrated Solutions

The technology of the PFI solutions differed from the core KONE products and included a significant amount of software. For the sales personnel, explaining the software included and the pricing of PFI solutions to customers were new aspects in their sales work. At the level of an individual salesperson, one of the challenges was that the core elevator products occupied a large share of the sales targets. At the country sales organization level, one of the challenges was that training salespeople for PFI sales was considered to be a large investment in parallel with the core business operations.

4.7.4 Reorganizing the AIS team in late 2015

Building the capabilities and processes described in the previous sections continued in the form of the AIS business team until the end of 2015. Interview respondents from the AIS business team described their achievements to involve significant large-scale project sales, being able to acquire the smart

solutions market in the industry, as well as receiving positive feedback from customers. In the KONE staff magazine published in November 2015, the solutions business and digitalization were highly emphasized throughout the issue. In the same issue, the establishment of "New Services and Solutions" (NSS) unit within the Service Business line was announced. In January 2016, the AIS team that had operated in the New Equipment Business line was reorganized into the NSS team in the Service Business line.

5. Findings

While the previous chapter presented the historical account of the investigated case study, this chapter aims to answer to the research question of "How do induced and autonomous strategy processes evolve over time in exploration-exploitation transition in a large organization with an established core business?" by reflecting on the empirical phenomena in the case with the theoretical background.

5.1 Induced and autonomous strategy processes in exploration exploitation transition

This section presents the findings of the investigated time frame through the theoretical lenses adopted from ambidexterity and strategy process research. The aim of the section is to point out the induced and autonomous strategy process activities highlighted in the data that are related with the exploration-exploitation transition. Figure 7 illustrates how the induced and autonomous strategy processes (Burgelman, 1991, 2002) emerge throughout the time frame. The Figure depicts the timeline according to the four main phases presented in the Historical account in Chapter 4. Two periods of transition activities were identified, the first one related to the IDE300 product in 2007-2009 and the second one related to the AIS business development establishment in 2011-2015. The arrows in Figure 7 represent the way the key activities emerge from the induced and autonomous strategy processes before, during, and after the identified exploration-exploitation transition activities.
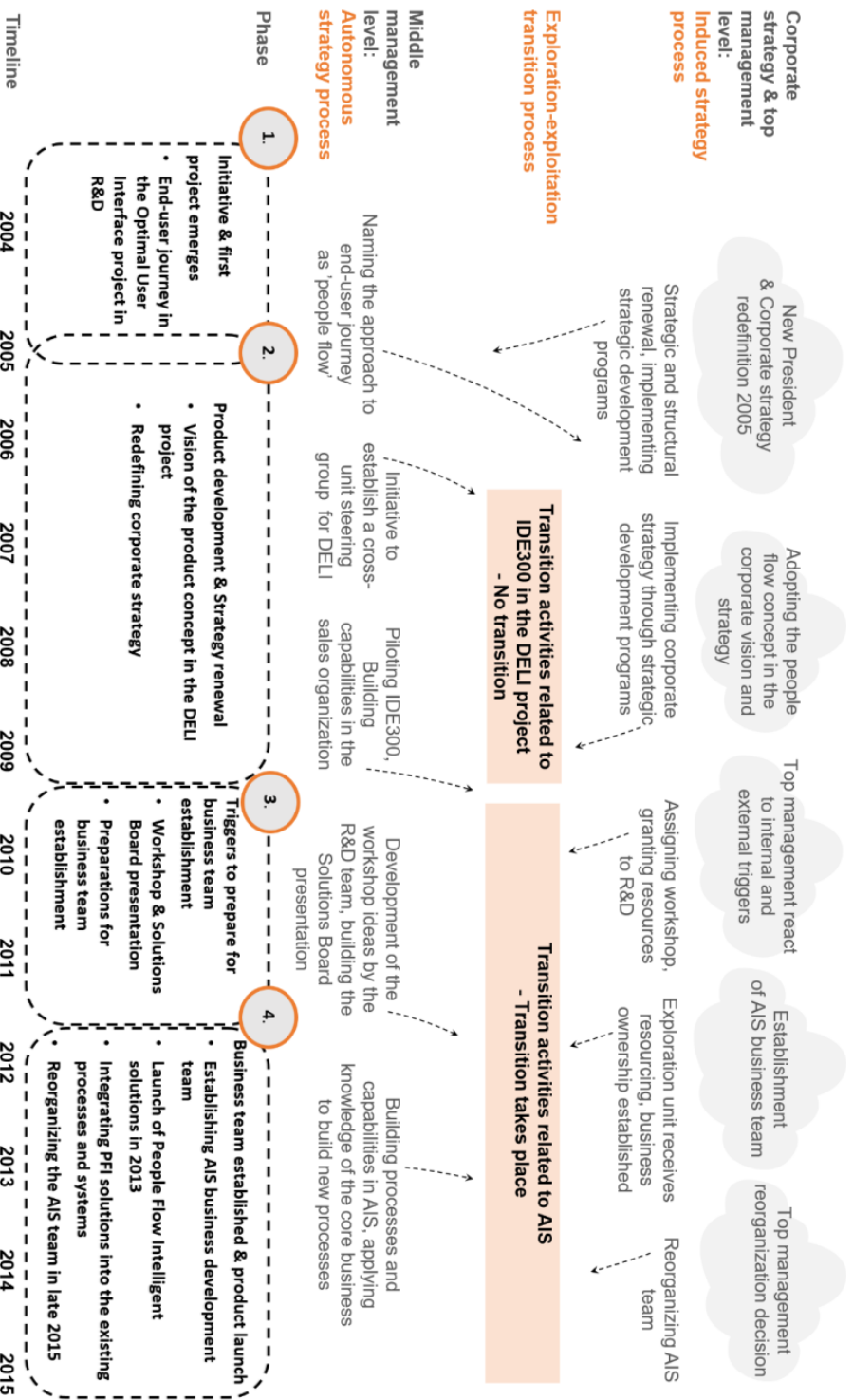
Figure 7. The empirical phenomena identified in the evolving induced and autonomous strategy processes in exploration-exploitation transition

Guided by the research question of the dissertation, both induced and autonomous strategy process activities were identified based on the iterative data analysis related to the transition activities with the IDE300 product and the AIS business development establishment. The following sections present the roles these temporal activities played in the induced and autonomous strategy processes in terms of the two time periods with identified transition activities.

5.2 Transition activities related to IDE300 in the DELI project (2007 2009)

The first period of transition activities that was identified is related to the IDE300 product, which was described in the Historical account chapter in section 4.5 Phase 2 (Product development & strategy renewal 2005-2009). Exploration first began under the Fubu program at the KONE R&D department, from which the DELI project emerged and was moved to the official R&D product development process of KONE in 2007. Table 6 below presents an overview of the type of temporal activities in the induced and autonomous strategy processes identified from this time period.

Table 6 Overview of IDE300 transition activities in the DELI project

Type of temporal activities	Role in exploration-exploitation transition
Induced strategy process: • Adopting the people flow concept in the vision and strategy • Implementation of the corporate strategy through strategic development programs **Autonomous strategy process:** • Initiative to establish cross-unit steering group • Building capabilities in the sales organization • Piloting IDE300 • Building internal visibility	• The redefined corporate strategy remained on a conceptual level • Lack of business ownership • Development remained at exploration level ➔ No transition

Type of temporal activities

In the autonomous strategy process (Burgelman, 1991, 2002), a significant activity during this period was the initiative taken by a middle manager to establish a cross-unit steering group for DELI in 2007. This type of cross-unit steering has been referred to as loose coupling (Hansen et al., 2019), suggested as useful in the early phases of exploration-exploitation transition. In line with findings regarding the use of advisory boards by Gassman et al. (2012) and Kannan-Narasimhan (2015) to reach executives across functions and businesses, the steering group for DELI also consisted of middle and top level managers from different parts of the KONE organization with the aim of addressing the lifecycle management issues facing the development of IDE300. Other autonomous activities observed in the transition efforts were the cross-unit steering group meetings, piloting of IDE300, building visibility for IDE300 inside the KONE organization through internal marketing materials, as well as building awareness and capabilities in the country sales organizations by naming sales champions.

In terms of the induced strategy process (Burgelman, 1991, 2002), this period experienced the redefinition of the corporate vision and strategy of KONE. Top management adopted the people flow concept in the new corporate vision at the end of 2007. The people flow concept was also employed in a new strategic development program 'Innovative People Flow Solutions', which was initiated for the three-year strategy period starting in 2008 (see Table 4). As the people flow concept had been conceived to portray the user experience aspect in the OUI project in 2004, before the concept was adopted into the corporate vision and strategy, these autonomous activities are concluded to have played a part in the redefinition of the vision and in the adoption of the concept in the three-year strategy period starting in 2008, reflecting middle managers' ability to influence corporate strategy formation through strategic context determination (Burgelman, 1983). Induced strategy process activities continued by assigning the top-down implementation of the 'Innovative People Flow Solutions' strategic development program in 2008 and 2009.

The DELI team in R&D continued to carry out autonomous activities to gain support for the further development of the IDE300 product in 2008 and 2009. Literature suggests (Burgelman, 1983, 1991, 2002; Mirabeau & Maguire, 2014) that activities which are in line with the prevailing strategy of the organization may face less challenges in being accepted for further development when the initiative shifts through the decision-making hierarchies in an organization. Furthermore, literature also suggests that initiatives that conform with the prevailing strategy of the organization are induced rather than autonomous in nature (Burgelman, 1983, 2002). These notions in the existing literature did not apply to the activities of the DELI project team, who engaged in autonomous activities related to R&D and business development while embodying the idea of the people flow concept in their activities. These autonomous activities were realized despite the people flow concept having been adopted to KONE's vision from late 2007 onwards and in the new strategic development program from 2008 onwards.

Role in exploration-exploitation transition

One of the activities in the induced strategy process in which the IDE300 transition activities occurred is related to the prevailing corporate strategy at the time. The implementation of the 'Innovative People Flow Solutions' strategic development reflects the implementation of the intended corporate strategy (Mintzberg, 1978) and direct top management strategic intent (Lovas & Ghoshal, 2000). The implementation of the strategic development program was part of top management setting the strategic context (Mintzberg, 1978; Lovas & Ghoshal, 2000) in which the exploration-exploitation transition took place in. The implementation of the program was arranged through discussions on the meaning of the concept on the daily tasks at the employee level, yet there had not been a product launched at the time to render the abstract concept of people flow more concrete for the majority of employees. This referred to the implementation of the strategic development program remaining on a conceptual level. Furthermore, there was a reported lack of business ownership to take exploitation activities further in the core business organization. The lack

of business ownership was related to the concerns regarding the uncertainty related to the IDE300 technologies and digitalization at the time, as well as to issues related to life cycle management issues of the product.

The business development activities of IDE300 eventually did not result in an exploration-exploitation transition as there was no shift of focus to exploitation (Raisch et al., 2009; Zimmerman et al., 2015; Friesl et al., 2019) or reintegration of the explorative structure into the operational business (Hansen et al., 2019; Durisin & Todorova, 2012), or any other form of ultimate operationalization reflecting a transition. The induced strategy process lacked activities that would have supported a transition from exploitation to exploitation. While Gassman et al. (2012) found in their study of Schindler that pilots acted as external validating to transitioning, in this dissertation, positive feedback was also reported from the IDE300 pilot cases in Finland. However, this feedback alone did not contribute to transitioning to exploitation. Although a transition from exploration to exploitation did not take place, IDE300 remained in KONE's offering. Moreover, the development of various solutions concepts related to user interfaces and customer experience continued at the R&D department.

5.3 Transition activities related to AIS (2010-2015)

The second period of transition activities that was identified is related to the establishment of the AIS business development team, which was described in the Historical account chapter in section 4.6 Phase 3 (Triggers to prepare for business team establishment 2010-2011) and in section 4.7 Phase 4 (Business team established & product launch 2012-2015). Table 7 below presents an overview of the type of temporal activities in the induced and autonomous strategy processes identified in this time period.

Table 7. Overview of AIS transition activities

Type of temporal activities	Role in exploration-exploitation transition
Induced strategy process: • People flow concept part of the vision and strategy • Overseeing development in cross-unit steering group • Top management react to internal and external triggers • Assigning workshop to review state of solutions development • Assigning resourcing for R&D based on Solutions Board presentation • Recruiting business owner • Decision to establish business development team **Autonomous strategy process:** • Development of the workshop ideas by the R&D team • Building the Solutions Board presentation • Informal discussions with Solutions Board members • Building processes and capabilities in AIS • Applying knowledge of the core business to build new processes	• Exploration unit received resourcing • Business ownership was established • Resources dedicated to establishing a parallel exploitation unit ➔ Transition takes place

Type of temporal activities
In terms of the activities in the induced strategy process, top management reacted to triggers from both the internal and external environment during this

time period. The trigger from the internal environment was that the people flow concept had already been adopted in the corporate strategy, but no concrete actions had been carried out in terms of solutions business development at the business organization. The triggers from the external environment referred to competitor activities in the field of smart solutions in the elevator industry, and requests for solutions that KONE had received from customers. Reflecting both retroactive rationalizing (Burgelman, 1983) and top management strategic intent (Lovas & Ghoshal, 2000), these triggers generated top management to assign the workshop in R&D with the Technology organization in 2010 to review the current state of solutions development.

After the workshop, autonomous activities continued as the R&D team developed the ideas gathered in the workshop further. As also found in the first identified period of transition activities related to the IDE300 product, the activities that took place after the workshop provide further evidence that autonomous strategic behavior can also occur when the initiative conforms to the prevailing strategy of the organization. These activities involved championing activities by the R&D team in building the Solutions Board presentation using a marketing agency for visualizing the presentation to effectively portray an abstract concept of the end-user journey. This is in line with Gassman et al.'s (2012) transfer mode of showcasing innovation, which involved portraying abstract ideas as more comprehensible and aiming to build legitimacy in the core business organization.

Other evidence of engaging in autonomous activities in a context in which the initiative is in line with the prevailing strategy were the informal discussions by the R&D team members before the Solutions Board presentation. Engaging in informal discussions with the two members of the Solutions Board, the R&D team members championed their initial ideas about the presentation content and received feedback to steer the presentation. Such informal discussions support findings by Gassman et al. (2012), who found informal networks to affect decision-making for initiatives to be transferred from exploration to exploitation. Holding informal discussions before subsequently establishing more formal processes to influence adaptations to the formal governance is also connected to Zimmerman et al.'s (2015) findings about informal sense-making and vertical negotiations.

Consisting of top managers from both R&D and business functions, the Solution Board presentation depicts another occasion of loose coupling (Hansen et al., 2019) by using advisory boards to reach executives across functions and businesses (Gassman et al., 2012; Kannan-Narasimhan, 2015). The Solution Board presentation portrayed in concrete terms the type of actions and support that the R&D team requested from top management. The resourcing decision made based on the presentation was a significant step towards expanding the solutions development team in R&D. However, this was a resource boost for the exploration team at the R&D department and at this stage did not reflect a step towards exploitative activities.

Activities related to the preparations for the AIS business team establishment in 2011 are recognized as the antecedents in approaching transitioning to a focus

on exploration. As a quote in the Historical account in section 4.6.2 reflects the thoughts of the executive manager involved in the decision to establish the business development team, the prevailing strategic vision that involved people flow, together with technology pull and customer demand created a momentum for top management to decide to begin the preparations for exploitation. Recruiting the Business Owner in spring 2011 for the AIS development team is in line with suggestions from the current literature on outside recruitments strengthening the boundaries between units in structural separation (Raisch & Tushman, 2016; O'Reilly & Tushman, 2008).

Role in exploration-exploitation transition
The establishment of the AIS business team in 2012 can be considered to be an activity that played a significant role in the exploration-exploitation transition as there was a shift of focus from exploration to exploitation (Raisch et al., 2009; Zimmerman et al., 2015; Friesl et al., 2019). The decision by the top management to set this structural context (Burgelman, 1983) reflects top management's direct intent to implement the intended corporate strategy (Mintzberg, 1978; Lovas & Ghoshal, 2000). Through this establishment decision, they legitimated the establishment of the exploitation focus for the PFI solutions business development in the core operational business. The recruitment of a manager from the core business organization can be seen as helping to build the local identity and a distinct skill set, reinforced by the structural separation of the business development team (Raisch & Tushman, 2016). On the other hand, the manager's experience from the core business helped to understand the administrative context of the existing business organization in which creating the processes for AIS occurred.

The executive director involved in the AIS team establishment mentioned that the basis for the moderate resourcing characterizing AIS operations was to retain agility. Reflecting on Raisch and Tushman's (2016) concept of staged risk-taking in their study on the real option theory approach to the interactions between the new units and the core organizations, the goal of retaining agility with the moderate resourcing can be concluded to be a strategy that was adopted to first make small investments to evaluate the opportunities for growth (Bowman & Moskowitz, 2001), and proceed in stages until the forecasts of future feasibility, demand, and other development aspects could be evaluated with more certainty (Sapienza & Gupta, 1994).

The AIS team was structurally separated, but their work can be viewed as boundary spanning from the beginning as reaching across units was required to gain support for building the new processes and systems for the PFI solutions. Although the activities carried out by the AIS team were in line with the prevailing strategy of KONE, these activities can be described as being autonomous because they involved convincing people across units to consider processes and systems from completely new perspectives as well as to adopt new ways of operating. As the AIS team reached for support across functions in their business development efforts, they were faced with the cognitive frames (Barr et al., 1992; Tripsas & Gavetti, 2000) of managers that operated with the core products. Interview respondents' accounts of their encounters with the

managers across functions indicated that the cognitive frames prevailing in the core business organization were part of the reason for the initial discussions by the AIS team with employees across functions taking some time, as well as for it being time-consuming to move the new business development efforts forward.

On the other hand, the prevailing strategy of KONE provided legitimacy for AIS activities. This legitimacy ensured, for instance, communications with top management on a regular basis. Therefore, both formal and informal network building held a significant part in establishing the basis for exploitation activities. These activities reflect Taylor and Helfat's (2009) intercomplementary linkages through the communication and coordinating activities carried out by boundary spanners. The findings also support Gassman et al.'s (2012) liaison channeling through the personal interactions between individuals in informal networks when promoting radical initiatives to be transferred to the existing business.

Exploration of the PFI solutions continued at the PFI R&D team, structurally separated from the rest of the R&D department. The AIS business team was located in the KONE Corporate offices in Espoo, while the PFI R&D team resided at KONE's main R&D unit in Hyvinkää. Although the exploitative structure was established within KONE's New Equipment Business, there was no transition from a focus of exploration to exploitation (Raisch et al., 2009; Hansen et al., 2019) in the sense that exploration would have ceased, and exploitation efforts would have succeeded it. In this dissertation, the transition does not refer to exploration producing a product from a new product development process to be taken over by exploitation. Rather, exploration continued with a parallel exploitation unit being established to oversee and steer exploration as well as to begin building the basis for business operations. The first version of the PFI product development process in R&D was realized in fall 2013, approximately one and a half years after the exploitation unit had been established. Therefore, the exploration-exploitation transition in this dissertation can be defined as a transition from a primary focus on exploration to establishing a parallel focus on exploitation. After the PFI solutions launch in 2013, some structural integration activities took place in the R&D department as software developers from the PFI team were transferred to the KONE R&D software department. Therefore, a reintegration of the explorative structure into the operational business (Hansen et al., 2019; Durisin & Todorova, 2012) only took place in terms of certain entities in the parallel focus on exploration and exploitation. In terms of establishing the processes and systems for the PFI solutions business operations, the goal of the AIS team was to integrate their operations and processes into the operational business of the core organization.

5.4 Conceptual framework

The previous sections on the two periods with identified exploration-exploitation activities presented an overview of the temporal activities in both the induced and autonomous strategy processes as well as the roles they played

in exploration-exploitation transition. One of the findings of the dissertation is related to the role between the prevailing strategy of the organization and autonomous initiatives. Current strategy literature suggests that initiatives that conform to the prevailing strategy of the organization usually do not face inertia in the strategic and administrative contexts of the organization (Burgelman, 1983, 1991, 2002). However, the findings of this dissertation suggest that autonomous strategic behavior through championing can occur even when the strategic initiative conforms to the prevailing strategy. This provides evidence of the complexities underlying the induced and autonomous strategy processes and the exploration-exploitation transition that may be possible to discern particularly when longitudinally investigating these processes over time.

Another key finding of this study was that the exploration-exploitation transition that took place in the case represents not simply a transition from a focus of exploration to exploitation (Raisch et al., 2009; Hansen et al., 2019), but rather an establishment of a parallel exploitation unit. The transition from exploration to exploitation occurred as top management ultimately authorized the establishment of the exploitation unit in the core business organization. The top management decision to establish the exploitation unit emerged as a result of context-specific triggers arising from the external and internal environments of the organization. The specific activities behind the establishment decision included the allocation of resourcing and business ownership to establish presence for the exploitation unit within the existing structure of the core business organization. This parallel exploitation unit was structurally separated from the core business organization with a dedicated business development team led by a director with top management level access. The exploitation unit steered the activities in the parallel exploration unit in the R&D organization, contributing together to the direction of the solutions development and subsequent product launches. Once the presence for the exploitation unit was established in the core business organization, induced and autonomous strategy processes continued evolving.

Establishing a parallel focus on exploration and exploitation was found to take place through the processes of setting the structural and strategic contexts in the induced strategy process (Burgelman, 1983; Mintzberg, 1978; Lovas & Ghoshal, 2000), and through championing in the autonomous strategy process (Burgelman, 1983). Following Gassman et al.'s (2012) definition of a transition mode as "the sum of distinct mechanisms and procedures enhancing the transfer and implementation of radical innovation to operational business" (Gassman et al. 2012: 121), specific mechanisms in setting the structural context and championing were identified in the two periods with transition activities. Drawing the findings of the dissertation together in a conceptual framework, Table 8 below presents the core concepts of setting the structural and strategic contexts and championing, the related mechanisms and key references in the literature, and how they empirically manifested in the induced and autonomous strategy process activities in the case.

Table 8 Conceptual framework

Core concepts	Related mechanisms with key references	Empirical phenomena
		Induced strategy process activities
Setting the structural and strategic contexts	Retroactive rationalizing (Burgelman, 1983)	• Adopting people flow concept in the vision and strategy, strategy implementation • Assigning resourcing for R&D based on Solutions Board presentation
	Direct strategic top management intent (Mintzberg, 1978; Lovas & Ghoshal, 2000)	• Top management react to internal and external triggers • Assigning workshop to review state of solutions development • Recruiting business owner • Decision to establish business development team
	Loose coupling (Hansen et al , 2009; Jansen et al , 2009)	• Overseeing development in cross-unit steering group
		Autonomous strategy process activities
Championing	Loose coupling (Hansen et al , 2009; Jansen et al , 2009)	• Initiative to establish cross-unit steering group • Development of the workshop ideas by the R&D team • Piloting IDE300 • Building processes and capabilities in AIS
	Network building (Gassman et al 2012; Jansen et al , 2009)	• Informal discussions with Solutions Board members • Building capabilities in the sales organization • Building internal visibility • Building the Solutions Board presentation
	Local identity-building (Raisch & Tushman, 2016)	• Applying knowledge of the core business to build new processes

Setting the structural context refers to top management activities that are realized through the formal administrative and organizational structures of the organization, whereas the strategic context refers to the activities in formulating the corporate strategy (Burgelman, 1983; Mintzberg, 1978; Lovas & Ghoshal, 2000). The temporal activities presented empirical phenomena in the case that can be categorized into retroactive rationalizing (Burgelman, 1983), direct strategic top management intent (Mintzberg, 1978; Lovas & Ghoshal, 2000), and loose coupling (Hansen et al., 2019) mechanisms in the induced strategy process.

The autonomous strategy process activities that were discerned in the two periods manifested themselves in exploration-exploitation transition through championing (Burgelman, 1983). Championing is related to establishing communication with top management about the type of support needed for autonomous initiatives and may involve political aspects (Burgelman 1983). The temporal activities presented empirical phenomena in the case that can be categorized into loose coupling (Hansen et al., 2019), network building (Gassman et al. 2012; Jansen et al., 2009), and local identity-building (Raisch & Tushman, 2016) mechanisms in the autonomous strategy process. These mechanisms are presented in more detail in the next chapter, which builds on the findings and the conceptual framework to propose the contributions of this dissertation to the extant literature.

6. Contribution and implications

While the previous chapter on the findings of the dissertation presented the categorization of the empirical phenomena in the case into mechanisms in the induced and autonomous strategy processes, this chapter presents the ways that the conceptual framework theoretically contributes to the existing literature. First, contributions to the ambidexterity literature are discussed, after which the managerial implications of this dissertation and the suggestions for further research are presented.

6.1   Theoretical contribution

This dissertation aims at advancing organizational ambidexterity literature by presenting a longitudinal case study of induced and autonomous strategy processes in exploration-exploitation transition in the context of a large organization with an established core business. The dissertation contributes to the organizational ambidexterity literature by answering the calls for more empirical research concerning the shift from an exploratory focus to an exploitative focus over time (Raisch et al., 2009; Zimmerman et al., 2015; Friesl et al., 2019). First, by explicating how exploration-exploitation transition can structurally take place by establishing a parallel focus on exploration and exploitation, this dissertation research contributes to the stream of studies in ambidexterity focusing specifically on the exploration-exploitation transition (Gassmann et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019). Second, this dissertation responds to the need for more research examining the dynamics between ambidexterity and strategy (Raisch & Tushman, 2016; Zimmerman et al., 2015; Khanagha et al., 2014; Friesl et al., 2019) by adopting the strategic perspective of induced and autonomous strategy processes (Burgelman, 1983, 1991, 2002; Mirabeau & Maguire, 2014). The contributions of the dissertation in this area are derived from the insights on the relationship between autonomous strategic activities and the prevailing strategy of the organization.

Third, the dissertation contributes to the literature on ambidexterity by addressing the evolution of induced and autonomous strategy processes after a transition to the operational business has taken place. These contributions aim to extend understanding in the ambidexterity literature on the induced and autonomous strategy processes in exploration-exploitation transition both

during the transition and after the transition has taken place. Finally, a model of the induced and autonomous strategy processes in exploration-exploitation transition is presented, combining the strategic perspective of induced and autonomous strategy processes (Burgelman, 1983, 1991, 2002; Mirabeau & Maguire, 2014) with the discussion on the exploration-exploitation transition (e.g., Gassman et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019).

6.1.1 Transition as establishing a parallel focus on exploration and exploitation

The first contribution of this dissertation extends the discussion in the research stream by specifically focusing on the exploration-exploitation transition (Gassmann et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019). It is argued that explicit accounts on the structural arrangements in the exploration-exploitation transition are needed to understand the operationalization of the transition. Current ambidexterity literature presents the exploration-exploitation transition primarily as a shift from an organizational focus from exploration to exploitation (Raisch & Tushman, 2016), occurring through reintegrating a structurally separated exploration unit into the institutionalized processes of the core organization (Hansen et al., 2019; Durisin & Todorova, 2012). Zimmerman et al. (2015) proposed that transitioning can occur between either exploration or exploitation and an ambidextrous state. The ambidextrous state involved both exploration and exploitation activities within the same structure (Zimmerman et al., 2015). In addition to this dissertation finding that transitioning from exploration involved transitioning to both exploration and exploitation, it also discovered that the structural arrangement of exploration-exploitation transition was realized by establishing a focus on exploitation in the core organization's business unit with a parallel exploration unit in the specific new development area remaining as a separated unit in the R&D organization. In this type of a structural arrangement, exploration continued with the exploitation unit being established to oversee and steer exploration as well as to begin building the basis for new business operations.

In the structural arrangement of establishing a parallel focus on exploration and exploitation found in this dissertation, the exploration unit did not cease existing in terms of being absorbed into the core organization and the institutionalized processes as the literature suggests (Hansen et al., 2019; Durisin & Todorova, 2012). Neither was there a shift of focus from exploration to exploitation (Raisch & Tushman, 2016) in the sense that exploration produces a certain outcome that is transitioned into exploitation. Rather, exploration and exploitation related to the new development area continued in parallel with the exploration unit as a separate structure in the R&D organization and the exploitative unit as a new separate structure in the core business organization. Structural ambidexterity literature characterizes exploration as activities being involved in a new area, whereas exploitation refers to the activities in the core business and the established processes,

cultures, and structures of the core organization units (Tushman & O'Reilly, 1996). The parallel structure found in this dissertation elaborates on the structural ambidexterity theory (Raisch & Tushman, 2016; O'Reilly & Tushman, 2008) by proposing that structural ambidexterity may involve structurally separated, simultaneous exploration and exploitation that both focus on a new area outside the existing core business.

6.1.2 Autonomous strategic activities in line with the prevailing strategy

One of the key tenets in Burgelman's (1983, 1991, 2002) work related to transitioning explorative initiatives to exploitation is the strategic context determination process. In this process, middle managers are able to influence the future areas of business by championing their initiatives for top management approval (Burgelman, 1983). Top management retroactively either rejects or rationalizes the initiatives, thus influencing the impact of middle managers' bottom-up activities on the formation of the corporate strategy of the organization (Burgelman, 1983). Supporting Burgelman's (1983) work, this study found that the autonomous strategy process involved middle managers' championing activities that were retroactively rationalized by top management and thus influenced the future areas of business and strategy formation. As presented in the Findings chapter (Chapter 5), the empirical phenomena related to championing involved for example middle managers preparing the 'Next Generation People Flow' Solutions board presentation in 2010, after which resourcing was allocated for establishing a new team in the R&D department with a focus on People Flow Intelligent solutions development.

Current strategy literature on induced and autonomous strategy processes (Burgelman, 1991, 2002) suggests that initiatives that are in line with the prevailing strategy of the organization do not usually face inertia in the strategic and administrative contexts in the same way as initiatives that fall outside the existing strategy of the organization (Burgelman, 1983, 1991, 2002; Mirabeau & Maguire, 2014). The literature also suggests that initiatives that conform to the prevailing strategy of the organization are induced rather than autonomous in nature (Burgelman, 1983, 2002). This dissertation contributes to the discussion on the nature of autonomous initiatives in the intended and emergent strategy processes (Mintzberg 1978; Mirabeau & Maguire 2014) by elaborating that autonomous strategic activities (Burgelman, 1983, 2002) can occur despite being in line with the prevailing corporate strategy of the organization. Considering strategy formation as a process of both intended and emergent strategy processes (Mintzberg 1978; Mirabeau & Maguire 2014), corporate strategy statements can be considered to be a form of intended strategy presentation. The empirical phenomena in the case showed that while the intended strategy included a statement that directly supported autonomous initiatives, the established processes and systems of the existing core business caused inertia for the autonomous activities. Middle managers' championing was necessary as the nature of the autonomous activities was based on a novel

aspect of end-user experience, whereas the established processes and systems of the core operating business were based on existing product lines.

The findings on inertia faced by middle managers can be reflected on by the organizational rigidity discussion in the literature on innovation and R&D management (Dąbrowska, Lopez-Vega & Ritala, 2019; Gilbert, 2005; Danneels, Verona, & Provera, 2017). Organizational rigidity can be identified with long-standing and successful established companies that have built their core business over time, simultaneously accumulating rigidity in the structures and boundaries of the organization (Hannan & Freeman, 1984; Sydow, Schreyögg & Koch, 2009). In addition to structural rigidity that is concerned with the organizational form, such as administrative processes, team and unit composition (Sydow et al., 2009), Dąbrowska et al. (2019) identified rigidity in terms of the capabilities of the organization. According to Dąbrowska et al. (2019), capability rigidity refers to the cultural, process, and routine aspects of the organization that accumulate over time in successful firms. In organizations caught in a 'rigidity trap' (Dąbrowska et al., 2019), continued success of a well-performing core business leads to a positive feedback loop that may prevent resource allocations from being extended to exploration outside of the existing business (Burgelman, 2002).

Both structural and capability rigidity (Hannan & Freeman, 1984; Danneels et al., 2017) were identified in this dissertation. Although an innovative R&D culture prevailed at KONE and the corporate strategy supported new solutions development, the technological base and the details involved in the administrative processes of the new solutions business differed significantly from the core business. Therefore, the new processes, which the exploitation unit began building for the multiple aspects in the lifecycle management of the solutions business, did not straightforwardly fit into the established processes and systems of the existing core business. Supporting the view that continuous success of the core business creates a self-reinforcing loop of resource allocations to the well-performing core business (Burgelman, 2002; Sydow et al., 2000), it was found that autonomous championing by middle managers in the new solutions business unit was at times challenging as it involved efforts to justify activities through the same processes and in comparison to the already established and profit-generating core business units. This dissertation thus contributes to the discussion on organizational rigidity (Dąbrowska et al., 2019; Sydow et al., 2009; Danneels et al., 2017) by highlighting the role of the induced and autonomous strategy processes when facing organizational rigidities in exploration-exploitation transition.

6.1.3 Induced and autonomous strategy processes after the exploration exploitation transition

Thirdly, this doctoral study contributes to the integration discussion in the organizational ambidexterity literature (e.g. O'Reilly & Tushman, 2008; Tushman & O'Reilly, 1996; Smith & Tushman, 2005) by addressing how induced and autonomous strategy processes continue evolving after transition to the operational business has taken place. The stages during and after the

exploration-exploitation transition are often referred to as the integration or reintegration of the exploration unit into the operational business of the core organization (Hansen et al., 2019; Friesl et al., 2019; Siggelkow & Levinthal, 2003). In this research, there was no reintegration of the explorative structure into the operational business (Hansen et al., 2019; Durisin & Todorova, 2012) in the sense that exploration in the new area would have ceased in the transition to exploitation. Instead, the exploration unit remained in the R&D organization, while a new exploitation unit was established in the core business organization. The exploitation unit established in the core operational business began steering the development of the exploration unit, thus operating structurally separated but in parallel.

Although reintegration as suggested by current literature (Hansen et al., 2019; Durisin & Todorova, 2012) did not occur, integration activities in both the parallel units did take place. Integration in the exploration unit involved reallocation of certain specialized team members into the core R&D organizations team with a similar skillset. In the new exploitation unit, the goal of the team from the beginning was to build the processes and systems for the new business operations within the existing core organization's processes and systems. Due to the differences in the features and components between the new business and the core business offering, the exploitation unit faced challenges in implementing integration activities. The idea behind the new business was to introduce smart solutions that would complement the existing core business offering in new ways. Thus, the new business area represented more of a new business concept than a technological innovation. The new business concept comprised solutions that mainly consisted of software technologies rather than the hardware technologies of the core business. Therefore, the entire operating logic behind the new business significantly differed from the core business. In line with Taylor and Helfat's (2009) findings, it was found that middle managers had a crucial role in facilitating organizational linkages in connecting disparate organizational functions (Taylor & Helfat, 2009), when the technology base of the new business differs from the existing technology of the core business organization. In line with Taylor and Helfat (2009), it was found that adaptation of the new technology base required linking activities between the new business unit and existing core business units (Hansen et al., 2019; Taylor & Helfat, 2009) to build processes for new business operations, including demand creation, sales, tendering, ordering, engineering, installation and maintenance.

Contributing to the integration discussion in ambidexterity (e.g., Jansen et al., 2009; Tushman & O'Reilly, 1996; Smith & Tushman, 2005) by connecting the championing concept (Burgelman 1983) from the strategic management literature, it is proposed that autonomous championing activities can continue after the exploration-exploitation transition has been structurally realized in the operational business. After the establishment of the exploitation unit, the exploitation team began building the processes for new business operations in the administrative environment of the core organization by reaching across the operational units' boundaries. In this research, these post-transition

autonomous championing activities occurred despite the adherence of the exploitation unit's operations to the prevailing corporate strategy. Middle managers in the new business unit needed to explain their business concept and convince people across units to collaborate in building the systems and processes to support the business operations of the new business. It is proposed that linking activities (Hansen et al., 2019; Taylor & Helfat, 2009) may be autonomous in nature, referring to the exploitation unit's middle management initiative in paving the way for building collaboration across the core business units. Autonomous linking supports the contribution represented in section 6.1.2 regarding the proposal that autonomous strategic activities may take place even though the initiatives conform to the prevailing corporate strategy of the organization. Autonomous linking activities reflect similar characteristics as Chen and Kannan-Narasimhan's (2015) first formal integration archetype, in which the new business unit's own initiative is employed to begin and manage new business development. However, in Chen and Kannan-Narasimhan's (2015) study the corporate venture units provided support in coordinating and providing capabilities to help in developing the venture, while in this research these type of corporate venture units did not exist.

The continuation of the autonomous activities after the establishment of the exploitation unit depicts how the exploration-exploitation transition as a phenomenon consisting of phases before, during, and after transition (Hansen et al., 2019), is connected to the induced and autonomous strategy processes (Burgelman, 1991, 2002). Reflecting on the intended, deliberate and emergent strategy processes in Minztberg's (1978) emergent strategy model and the influence of the autonomous strategic behavior (Burgelman, 1983) in Mirabeau and Maguire's (2014) model of strategy formation, the intended strategy of the organization in this research included a statement supporting the development of the new business area. The establishment of the exploitation unit in the operational business can be considered to be a form of realizing this statement in the intended strategy (Mintzberg, 1978). The continuation of the autonomous activities after the establishment of the exploitation unit shows how the induced and autonomous strategy processes (Burgelman, 1991, 2002) evolve in cycles over time, elaborated in more detail in the model of induced and autonomous strategy processes in exploration-exploitation transition presented next.

6.1.4   A model of induced and autonomous strategy processes in exploration-exploitation transition

Finally, this dissertation contributes to the view of ambidexterity as a dynamic phenomenon that unfolds over time (Simsek et al., 2009; Khanagha et al., 2014), answering the calls for more empirical research on the dynamic aspects of ambidexterity by adopting a longitudinal process perspective (Raisch & Zimmermann, 2017; Raisch et al., 2009; Lavie et al., 2010; Zimmermann, Raisch, & Birkinshaw, 2015). Answering the research question of the dissertation: "How do induced and autonomous strategy processes evolve over time in exploration-exploitation transition in a large organization with an

established core business?", a model of induced and autonomous strategy processes in exploration-exploitation transition (Figure 8) is proposed.
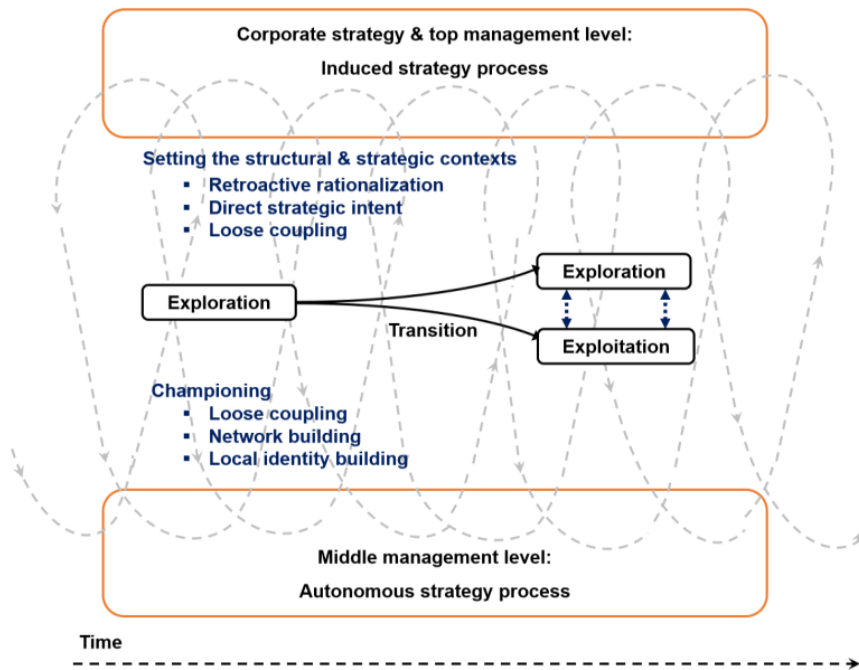
Figure 8 Model of induced and autonomous strategy processes in exploration exploitation transition

The model builds on Burgelman's (1991, 2002) concepts of induced and autonomous strategy processes to extend the exploration-exploitation transition discussion in organizational ambidexterity (Gassman et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019). The cyclical pattern in the model reflects the temporal cycles through which the induced and autonomous strategy processes (Burgelman, 1991, 2002) evolve over time. These cycles evolve through the phases before, during, and after the exploration-exploitation transition. The transition as establishing a parallel focus on exploration and exploitation is presented to take place through the processes of setting the structural and strategic contexts in the induced strategy process (Burgelman, 1983; Mintzberg, 1978; Lovas & Ghoshal, 2000) as well as through championing in the autonomous strategy process (Burgelman, 1983). Following Gassman et al.'s (2012) definition of a transition mode as "the sum of distinct mechanisms and procedures enhancing the transfer and implementation of radical innovation to operational business" (Gassman et al. 2012: 121), the model presents the identified mechanisms in setting the structural and strategic contexts and championing. Next, these mechanisms identified in the induced and autonomous strategy processes are presented.

Induced strategy process mechanisms in exploration-exploitation transition
The model presented in Figure 8 shows the induced strategy process taking place at the top management level and representing the implementation of the corporate strategy of the organization (Burgelman, 1991, 2002) to evolve through setting the structural and strategic contexts of the organization (Burgelman, 1983; Mintzberg, 1978; Lovas & Ghoshal, 2000). The formal administrative and organizational structures of the firm that constitute the structural context (Burgelman, 1983; Bower, 1970) influence the type of strategic initiatives which are adopted as part of the strategy (Burgelman, 1983). In this research, the mechanisms identified to take place in the induced strategy process included retroactive rationalizing (Burgelman, 1983), direct top management strategic intent (Mintzberg, 1978; Lovas & Ghoshal, 2000), and loose coupling (Hansen et al., 2019).

Table 9. Identified induced strategy process mechanisms in exploration-exploitation transition

Induced strategy process: Setting the structural and strategic contexts	
Mechanism	**Definition**
Retroactive rationalizing	Top management retroactively either rejecting or rationalizing initiatives brought forward by middle managers (Burgelman, 1983)
Direct top management strategic intent	Top management initiative to impose strategic intent by implementing the intended the corporate strategy (Mintzberg, 1978; Lovas & Ghoshal, 2000)
Loose coupling	The involvement of top management representatives from across units to deepen knowledge flows while retaining differentiated processes (Hansen et al , 2009; Jansen et al , 2009) e g , through advisory boards (Gassman et al , 2012; Kannan-Narasimhan, 2015)

In terms of setting the strategic context, Burgelman's (1983) intraorganizational evolutionary theory proposes that middle managers' autonomous initiatives are retroactively rationalized by top management. When approved by top management, middle managers are thus able to influence the strategic context determination process (Burgelman, 1983). However, this intraorganizational evolutionary view (Burgelman, 1983) has been argued as presenting a limited view of the role of top management's influence on strategy formation (Lovas & Ghoshal, 2000). The activities at the top management level provided evidence that both retroactive rationalizing (Burgelman, 1983) and top management strategic intent (Mintzberg, 1978; Lovas & Ghoshal, 2000) occurred in this case study. Central activities in setting the strategic context (Burgelman, 1983; Mintzberg, 1978; Lovas & Ghoshal, 2000) in the investigated timeline included the adoption of the people flow concept into the corporate vision of KONE in 2007, and in one of the strategic development programs named 'Innovative People Flow Solutions' in 2008. As the people flow concept had first been named by the OUI team in R&D to reflect their approach to the end-user journey in early 2005, and was subsequently brought up in the Executive Board meeting in August 2007, it is concluded that the adoption of the concept in the corporate vision and strategy involved both retroactive rationalizing (Burgelman, 1983) as well as top management strategic intent (Mintzberg, 1978; Lovas & Ghoshal, 2000). It is concluded that the emergence of the people flow concept in the OUI project did play a role in the subsequent top management adoption of the concept in the corporate vision and strategy,

while the top management adoption of the concept played a key role in aiming to implement the idea of user experience throughout the organization.

Another occasion that involved retroactive rationalizing (Burgelman, 1983) occurred after middle managers championed their initiative for more resources and business organization support in their presentation at the Solutions Board meeting in 2010. In line with Burgelman's (1983) intraorganizational evolutionary theory, strategic context determination through top management's retroactive rationalizing was in this way influenced by middle managers' initiative and resulted in top management allocating resources to expand the exploration unit in the R&D organization. In this research, the middle manager team began preparing their initiative for the presentation based on an event that was initially assigned by top management. The workshop organized at the R&D department at KONE in 2010 acted as the context from which middle managers began preparing for the Solutions Board Initiative. In this regard, a more direct role of top management intent (Lovas & Ghoshal, 2000) can be considered to have played a part in middle managers consequently beginning to build their initiative for the Solutions Board presentation.

It was found that the top management's decision to assign the workshop in 2010 was based on triggers from both the external and internal environments of the organization. The external triggers were derived from competition and customer demand and were directly reported to top management, providing direct top management intent (Lovas & Ghoshal, 2000) on the decision to assign the workshop. On the other hand, the decision to assign the workshop was also based on an internal trigger, which derived from the existing solutions development lacking business ownership in the operational core business organization. This situation had continued since the establishment of the cross-unit steering group in 2007, which is why the decision to assign the workshop in 2010 is characterized as retroactive rationalization (Burgelman, 1983). Therefore, both direct top management influence as suggested by Lovas and Ghoshal (2000) and retroactive rationalizing (Burgelman, 1983) were involved in the decision to assign the workshop. The direct strategic top management intent is also inherent in Mintzberg's (1978) emergent strategy model, in which the intended strategy announced by top management in the corporate strategy of the organization is implemented through deliberate strategy (Mintzberg, 1978). The assigning of the workshop by top management and following the middle management presentation, as well as the top management decision to establish the exploitation unit in the operational business of the core organization took place under a strategy period, during which the intended strategy (Mintzberg, 1978) supported all these activities.

Retroactive rationalizing (Burgelman, 1983) and the direct top management strategic intent (Mintzberg, 1978; Lovas & Ghoshal, 2000) in exploration-exploitation transition were found to have been mainly realized through the allocation of resources. The allocation of dedicated resourcing by top management was necessary for the exploration-exploitation transition. In this research, resource allocation was first directed to expanding the exploration unit in R&D, followed by resource allocations made during the establishment of

the new exploitation unit in the core business organization. The resource allocation related to the new exploitation unit establishment involved a specific allocation of new business ownership, which legitimated the structural establishment and authorized the role of the exploitation unit in the core business organization. An important part of this business ownership resource allocation was the establishment of a completely new senior manager role as the new exploitation unit was assigned a dedicated director with top management level access to assume the responsibility of steering the exploitation unit within the existing structure of the core business organization. This business ownership resource allocation was a distinctive factor in the transition from exploration to exploitation based on top management decision-making as a result of retroactive rationalizing (Burgelman, 1983) and direct top management strategic intent (Mintzberg, 1978; Lovas & Ghoshal, 2000).

Loose coupling (Hansen et al., 2019) was an integral part in the early stages of the exploration-exploitation transition. Reaching across separated units to deepen knowledge flows while retaining differentiated processes (Hansen et al., 2009; Jansen et al., 2009) took place throughout the exploration-exploitation transition. In particular, advisory boards were used to reach executives across functions and businesses (Gassman et al., 2012; Kannan-Narasimhan, 2015). In this research, advisory boards were structurally positioned in both the explorative R&D organization and in the exploitative operational business organization. As loose coupling (Hansen et al., 2019) was also found to have been initiated in the autonomous strategy process, the mechanism is discernible in both strategy processes. This dissertation contributes to the exploration-exploitation transition discussion by depicting how the loose coupling (Hansen et al., 2019) mechanism reflects the interdependence between the induced and autonomous strategy processes. The mechanism can be identified in the induced strategy process due to the inherent role of top management involvement through steering exploration and exploitation activities. This dissertation also demonstrates how the loose coupling mechanism is interdependent with the other identified induced strategy process mechanisms related to exploration-exploitation transition, as both direct strategic top management intent and retroactive rationalizing either initiated or occurred as a consequence of loose coupling. For instance, the loose coupling initiated by top management by organizing the workshop at the R&D department at KONE in 2010 to review the state of solutions development was previously concluded to have been a consequence of both retroactive rationalizing (Burgelman, 1983) and top management strategic intent (e.g., Lovas & Ghoshal, 2000).

Autonomous strategy process mechanisms in exploration-exploitation transition
The autonomous strategy process which took place at the middle management level (Burgelman 1991, 2002) is linked with the exploration-exploitation process through championing activities, which present the middle manager activities aiming to gain support and legitimacy for their initiatives (Burgelman, 1983). The mechanisms identified as taking place in the autonomous strategy process included loose coupling (Hansen et al., 2009; Jansen et al., 2009),

network building (Gassman et al. 2012; Jansen et al., 2009), and local identity-building (Raisch & Tushman, 2016).

Table 10. Identified autonomous strategy process mechanisms in exploration-exploitation transition

Autonomous strategy process: Championing	
Mechanism	**Definition**
Loose coupling	The middle management initiative to reach across separated units to deepen knowledge flows while retaining differentiated processes (Hansen et al., 2009; Jansen et al , 2009) e.g , through advisory boards (Gassman et al , 2012; Kannan-Narasimhan, 2015)
Network building	Both informal (e.g., Jansen et al., 2009) and formal (e.g., Chen & Kannan-Narasimhan, 2015) interactions across units, including both liaison channeling and showcasing of innovation (Gassman et al 2012), initiated by middle managers between middle and top management across organizational units
Local identity-building	The distinct skills and local identities that are reinforced through structural separation (Raisch & Tushman, 2016)

As mentioned when describing the induced strategy process mechanisms in exploration-exploitation transition, loose coupling (Hansen et al., 2009; Jansen et al., 2009) was also identified as a mechanism in the autonomous strategy process. In particular, this involved the middle management initiatives to establish a cross-unit steering group in 2007 and building a presentation of the future of the solutions development presented for the Solutions Board in 2010. An interdependence between the loose coupling mechanism and the retroactive rationalizing (Burgelman, 1983) mechanism in the induced strategy process was found. For instance, the middle management-initiated Solution Board presentation at the KONE R&D department in 2010 resulted in top management's retroactive rationalizing (Burgelman, 1983) to allocate resources for solutions development in R&D. This interdependence between mechanisms in the autonomous and induced strategy processes illustrates the cyclical, evolving nature of the induced and autonomous strategy processes proposed in this dissertation.

It is proposed that the concept of autonomous linking presented in section 6.1.3 is involved in the loose coupling mechanism. In the empirical study, this manifested in the exploitation unit's activities after the exploration-exploitation transition had taken place. In line with Chen and Kannan-Narasimhan's (2015) first formal integration archetype, the exploitation unit's own initiative proved crucial in building the new processes and in aiming to integrate into the core operational business. By integrating autonomous linking in the loose coupling mechanism, the model of the induced and autonomous strategy processes in exploration-exploitation transition contains the proposal of this dissertation that autonomous strategic activities may take place even though the initiatives conform to the prevailing corporate strategy of the organization.

Another mechanism identified in the autonomous strategy process is network building (Gassman et al., 2012). The concept is adopted from Gassman et al. (2012), who presented network building as a transfer mode involving the building of relationships between the exploratory and exploitative units through social platforms (Gassman et al., 2012). As a mechanism in the autonomous strategy process in exploration-exploitation transition, network building is defined to involve both informal (e.g., Jansen et al., 2009) and formal (e.g.,

Chen & Kannan-Narasimhan, 2015) interactions across units. Furthermore, both liaison channeling and showcasing of innovation by Gassman et al. (2012) are conceptualized in this dissertation under the network building mechanism. This is because liaison channeling as the personal interactions between individuals in informal networks (Gassman et al., 2012) are considered under informal interactions; showcasing of innovation as the visualizations and prototypes to make abstract ideas more comprehensible (Gassman et al., 2012) are considered as a means of communication under network building. The network building mechanism in this dissertation was realized, for instance, through informal discussions initiated by middle managers with the top managers to receive feedback before the presentation at the Solutions Board meeting in 2010. Showcasing of innovation (Gassman et al., 2019) was an integral part of formal network building events, such as the Solutions Board presentation, as visualizing and projecting a future roadmap for the solutions development were essential in effectively illustrating an abstract concept of the end-user journey for the top management. The informal discussions, which were held before subsequently establishing more formal processes to influence adaptations to the formal governance, support Zimmerman et al.'s (2015) findings regarding informal sensemaking and vertical negotiations. After the transition to exploitation, informal network building took place through the middle managers in the exploitation unit convincing people across organizational units to collaborate in building the systems and processes to support the business operations of the new business. Network building as a specific mechanism in the autonomous strategy process in exploration-exploitation transition contributes to the wider integration discussion within organizational ambidexterity literature (e.g., Jansen et al., 2009; Andriopoulos & Lewis, 2009; Mom et al., 2009), supporting Jansen et al. (2009) who considered integration to be possible to implement at multiple hierarchical levels (Jansen et al., 2009).

In terms of the stage after the exploration-exploitation transition, a mechanism closely related to both loose coupling and network building is local identity-building in the exploitation unit that was established within the core business organization. According to Raisch and Tushman (2016), the distinct skills and local identities that are reinforced through structural separation guard the unit from the inertial influences of the core organization. Due to the boundary spanning role of the exploitation unit, the inertial forces from the core organization were realized despite the exploitation units' distinct skillset. However, by recruiting a middle manager to the exploitation unit with an understanding of the administrative context of the existing business organization, the exploitation unit was built to contain the capabilities to manage the inertial forces they faced in reaching across other units. The local identity-building mechanisms in the autonomous strategy process is interdependent with the retroactive rationalizing (Burgelman, 1983) and direct top management strategic intent (Mintzberg, 1978; Lovas & Ghoshal, 2000) mechanisms in the induced strategy process though the resource allocation of new business ownership previously proposed. This is because local identity-

building would not have been possible without a legitimation of the establishment of a separate exploitation unit with dedicated business ownership in the core business organization by the top management.

6.2 Managerial implications

This dissertation provides insights for managers in large organizations with established core businesses. The findings are most applicable to managers in organizations with long-standing successful businesses in which exploration activities have traditionally focused on the existing product categories or technologies. Such organizations have accumulated structures, processes, and the organizational culture and boundaries over long periods of time (Hannan & Freeman, 1984; Sydow et al., 2009; Dąbrowska e a., 2019).

In line with previous notions that it can require even ten to twelve years for an innovation to transform into a new business (Biggadike, 1979; Block & MacMillan, 1993), this dissertation proposes that the structural operationalization of the exploration-exploitation transition can require nearly ten years with the autonomous activities possibly continuing after the transition, even when the new business idea conforms to the prevailing strategy of the organization. For top management, this implies that it may be useful to evaluate how the autonomous initiatives that emerge in the organization are processed. This could lead to further assessments on whether the required administrative processes are in place to support both the processing of autonomous initiatives and the new business building activities after the transition from exploration to exploitation has taken place. As this research has proven, autonomous activities continue after the exploration-exploitation transition has taken place and it is suggested that top management support is essential in building the new business processes after the structural transition has taken place.

Often strategy development from the viewpoint of top management is mainly seen as the implementation of the intended corporate strategy (Mintzberg, 1978), whereas autonomous middle management activities (Burgelman, 1983) are considered to be the efforts of the R&D organization. For top management, this dissertation highlights the significance of acknowledging the role of the autonomous strategy process and the interplay with the induced strategy process when considering the long-term strategy development of the organization. It is useful for top managers to understand how the induced and autonomous strategy processes evolve in the long-term, both generally, in terms of corporate strategy formation and in the case of exploration-exploitation transition. Based on the findings of this dissertation research, alertness to the conditions in the internal and external environments of the organization allow top management to identify the triggers for decision-making regarding the possible actions needed for exploration-exploitation transition.

In order to avoid the potential 'rigidity trap' of successful large organizations (Dąbrowska et al., 2019) and to expand the outlook from a continued focus on the well-performing core business that may create co-evolutionary lock-in

(Burgelman, 2002), top management should encourage and support middle managers' autonomous strategic behavior in their organizations. In the case of the middle managers' performance targets and other incentives being strongly tied to the existing core business and pre-existing ways of carrying out everyday tasks, it may be useful for top management to consider how autonomous strategic behavior can be encouraged from the incentive systems and resourcing point of view.

For middle managers, this dissertation provides an understanding of the induced and autonomous strategy processes that inherently influence middle managers' autonomous activities. The findings of this dissertation indicate that middle managers' autonomous activities through loose coupling (Hansen et al., 2009; Jansen et al., 2009) activities, such as reaching advisory boards (Gassman et al., 2012; Kannan-Narasimhan, 2015), and network building (Gassman et al. 2012; Jansen et al., 2009) activities, such as presenting initiatives through visualizations (Gassman et al. 2012), are necessary in order for the transition from exploration to exploitation to occur. However, as these mechanisms were found to be critical specifically in the structural operationalization found in the context of this dissertation, other key mechanisms should also be considered depending on the type of structural operationalization in these other contexts. When considering championing activities specifically aiming to portray the need for establishing a focus from exploration to exploitation, middle managers should include the justifications for specific resource allocations for the exploitation focus in the core business organization. In these championing activities, middle managers should highlight the critical role for top management support in both carrying out the transition and the support needed in the new business lifecycle management issues in the stages after the transition.

6.3   Limitations of the study

This section addresses the limitations of this dissertation, starting with the methodological limitations of the research carried out.

First of all, this dissertation has been conducted as a single case study, which raises the question of the generalizability of the findings. As a longitudinal case study that is justified as a complete study of its own (Yin, 2003), the purpose of this dissertation has been to provide a rich description of the phenomenon under investigation. This has been enabled by collecting data from multiple data sources, from multiple managerial levels and across the organization (Leonard-Barton, 1990). While critics of the single case study approach suggest that only multiple cases offer an adequate basis for accuracy and generalizability of the findings in terms of theory-building (Eisenhardt & Graebner, 2007), this dissertation adopts the view that generalization from findings outside of the context of the study is not the intent of qualitative inquiry (Creswell, 2009). Instead of striving for statistical generalization, this dissertation adopts the analytical generalization approach proposed by Yin (2003). Therefore, the contributions of this dissertation have been provided through theory

elaboration that allows for linking the case study findings to specific theoretical concepts, models or tools (Schwandt, 2007). While the case study presented is unique, other large companies with established core businesses can reflect on the findings of this dissertation. Although the value of single case studies derives from the context-specific representation of the research site (Creswell, 2009), other mature companies can reflect, for example, on the findings on the role of the prevailing corporate strategy and autonomous strategic activities, as well as on the structural arrangements of the exploration-exploitation transition. Managers in companies that have long-standing successful core businesses can learn about the mechanisms identified in the induced and autonomous strategy processes to better cope with the issues they face when undergoing exploration-exploitation transition, while considering other key mechanisms in the specific contexts.

Secondly, the methodological issue of studying the case in retrospect is acknowledged. In terms of the data collection through interviews, this concerns the potential motivational and perceptual biases related to the interview respondent's role in the organization (Huber & Power 1985). As one of the main themes in this dissertation was corporate strategy, it is acknowledged that strategy issues may amplify these biases (Huber & Power 1985). One of the key mitigation strategies to reduce this bias in this dissertation is data triangulation (Denzin, 1970). For instance, for the first half of the investigated time frame between 2004-2009, a case study of the solutions development in a book chapter was utilized to corroborate findings. Other strategies used to mitigate retrospective bias included minimizing the elapsed time between the investigated events and time of the interviews, as well as collecting accounts from multiple managerial levels across the organization (Huber & Power 1985).

Thirdly, limitations related to the theme of the investigated case study are discussed. In terms of the induced and autonomous strategy processes (Burgelman, 1983) that took place during the investigated time frame, the scope of this dissertation was restricted to investigating activities in the induced and autonomous strategy processes, which were identified as being connected with the exploration-exploitation transition. Although this was a requirement based on following the research question of the dissertation, it follows that multiple activities related to deliberate, unrealized, emergent, and ephemeral strategy processes (Mintzberg, 1978; Mirabeau & Maguire, 2014) were outside the scope of analysis. Therefore, this dissertation provides a description of activities related to these strategy processes in the context of the exploration-exploitation transition phenomenon, rather than an analysis of the entire strategy formation process that took place at KONE during the investigated time frame. It is acknowledged that a comprehensive account of the entire strategy formation process would require a wider research question on the formation of emergent strategies over time. Furthermore, research focusing on the entire strategy formation process over time would require a methodology enabling a systematic tracking of the various strategy-making processes over time. The novel method of tracking intended, deliberate, unrealized, realized, emergent, and ephemeral strategy processes introduced by Mirabeau et al. (2018) could be applied in

future research to comprehensively explore the entire strategy formation in the context of exploration-exploitation transition. As mentioned by Mirabeau et al. (2018), their three-stage tracking method complements existing methods in both strategy process and strategy-as-practice research.

6.4 Suggestions for further research

This section outlines the avenues for future research that were identified based on the findings of this dissertation in terms of the organizational ambidexterity literature, strategy process literature, the organizational rigidity discussion in the innovation and R&D literature, the discussion on boundary objects in the strategy tools and strategy as practice domains, as well as the strategic marketing literature.

6.4.1 Organizational ambidexterity and strategy processes

In order to extend the strategic perspective on ambidexterity (Raisch & Tushman, 2016) to understand longer strategy-making processes over time (Burgelman et al., 2018; Jarzabkowski & Seidl, 2008), further studies on the role of the prevailing strategy of the organization and the nature of the strategic initiatives are encouraged. These studies could investigate the circumstances under which induced and autonomous strategic activities unfold in other contexts of exploration-exploitation transition. First, future studies could provide more insights around the proposition of this dissertation that autonomous activities can take place despite the initiatives following the existing strategy of the organization. Secondly, future studies could examine the proposition of this dissertation that autonomous activities can continue after the exploration-exploitation transition has structurally been realized in the operational business. An interesting avenue for future research in large organizations with established core businesses would be to examine exploration-exploitation transition from the perspective of managers' cognitive frames. Understanding the roles of the various functional units before, during, and after transition in a context, in which pre-existing cognitive frames have been tied to the core business operations (Barr et al., 1992; Tripsas & Gavetti, 2000), could provide new insights into the ambidexterity research stream focusing on the exploration-exploitation transition (Gassmann et al., 2012; Chen & Kannan-Narasimhan, 2015; Hansen et al., 2019) from a cognitive point of view.

Although recent studies, such as those by Hansen et al. (2019) and Chen and Kannan-Narasimhan (2015), have contributed to research on the structural arrangements of the exploration-exploitation transition, more empirical studies on the actual transition stage depicting the operationalization of the exploration-exploitation transition in the core business organization are needed. Elaborating on the structural ambidexterity theory (Raisch & Tushman, 2016; O'Reilly & Tushman, 2008), a parallel structural operationalization of the exploration-exploitation transition was proposed in this dissertation, which involves establishing a focus on exploitation in the core organization's business

unit with a parallel exploration unit in the specific new development area remaining in the R&D organization. It is acknowledged that more structural operationalizations in other settings exist, therefore encouraging additional studies. This would enrich organizational ambidexterity literature, in which more empirical research have been requested on the processes related to the development of structural ambidexterity over time (Schad et al., 2016; Raisch et al., 2009) and on the activities related to transitioning from exploration to exploitation (Friesl et al., 2019; Schad et al., 2016; Raisch et al., 2009).

6.4.2 Organizational rigidity

In their study on organizational rigidity and Swarovski's journey to open innovation, Dąbrowska et al. (2019) found organizational ambidexterity and open innovation to be key in overcoming rigidity. By adopting a boundary-expanding mode that included opening the innovation phase to external ecosystems, Swarovski was able to outweigh structural rigidities. Dąbrowska et al. (2019) found that building these external collaboration networks contributed to overcoming capability rigidities by enhancing dynamic ambidexterity, as new initiatives for both exploration and exploitation emerged in a flexible organizational structure. While open innovation activities in the R&D process were not the focus in this dissertation, it was found that a direction towards more open R&D activities began to occur at KONE as partnerships with selected external actors were a significant part of the solutions development under investigation. It would be interesting for future research carried out at KONE to investigate the connections between organizational ambidexterity, open innovation, and external ecosystems as proposed by Dąbrowska et al. (2019). With a time frame extending beyond the scope of this study from 2016 and onwards, future studies could investigate the type of a role the partnership mode of collaborating, established at KONE R&D during the investigated time frame of this dissertation, played in subsequent ecosystem building and open innovation efforts. This would provide an opportunity for future research carried out at KONE to address the issues of overcoming organizational rigidities as suggested by Dąbrowska et al. (2019).

6.4.3 Boundary object

Throughout the investigated time frame, it was found that the people flow concept was employed as a boundary object on multiple managerial levels at KONE. Studies on boundary objects are found particularly in the knowledge-sharing literature and in boundary-spanning work on new product development (e.g., Carlile 2002). Boundary objects are flexible, concrete or abstract artifacts that "have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable" (Star & Griesemer, 1989: 393). The different meanings employed by the boundary object are strongly structured at the social group level, while their meaning is weaker across social groups (Star & Griesemer, 1989). In this dissertation, the people flow concept emerged in the R&D department and the meaning of the

concept was strongly tied to the end-user experience in the R&D projects. However, once the concept was adopted into the corporate vision and strategy by top management, the meaning of the concept was not tied to a specific product development project but employed instead a more abstract meaning. Future research could focus on the discursive strategic activities in the context of exploration-exploitation transition and study the evolving induced and autonomous strategy processes from the perspective of boundary objects.

Managing boundary objects in order to sustain consistency across social groups (Star & Griesemer, 1989) may prove challenging especially in uncertain and complex environments (Jarzabkoski & Kaplan, 2015). This is because in such circumstances, the meanings of boundary objects may change when knowledge is transformed across organizational boundaries (Jarzabkoski & Kaplan, 2015). The boundary object discussion has also raised interest in the strategy tools research stream (e.g. Jarzabkoski & Kaplan, 2015; Kaplan, 2011) as part of research on strategy practices (Burgelman et al., 2018). It is suggested that future studies regarding emerging strategic concepts in exploration-exploitation transition could provide new insights to the strategy tools perspective, thus expanding the boundary object discussion in the strategy as practice literature.

6.4.4 Strategic marketing

In the context of strategic marketing, potential avenues for future research were found in previous literature on marketing strategy formation and implementation (e.g., Thorpe & Morgan, 2007; Noble & Mokwa, 1999; Hutt, Reingen & Ronchetto, 1988). Hutt et al. (1988) proposed including the concept of autonomous strategic behavior (Burgelman, 1983) by marketing managers to study the formation of marketing strategy. In light of one of the key conclusions of this dissertation that autonomous strategic behavior can continue in a context in which the initiatives are in line with the corporate strategy, it would be interesting for future strategic marketing studies to investigate the possibility of autonomous strategic behavior continuing after the autonomous initiatives have been adopted in the marketing strategy. Future studies in the marketing strategy formation and implementation literature (e.g., Thorpe & Morgan, 2007; Noble & Mokwa) could consider the role of both induced and autonomous strategic behavior (Burgelman, 1983) at the level of the marketing function and marketing strategy similarly to Hutt et al. (1988), or consider the types of role induced and autonomous strategy processes at the corporate strategy level play from a marketing function or marketing strategy perspective.

This dissertation suggests future research in strategic marketing with a focus on the role of marketing function on firm performance (e.g., Sarkees et al. 2010; Tollin & Schmidt, 2012) to extend the perspective on the exploration-exploitation transition phenomenon. An interesting avenue for future research in this area would be to examine the types of role the marketing function might play in enhancing a customer-focused perspective when the company under investigation is undergoing a transition from exploration to exploitation. This would connect strategic marketing studies examining the role of the marketing

function (e.g., Sarkees et al. 2010) with studies investigating the adoption of a customer-focused approach (e.g., Vorhies, Orr, & Bush, 2011; Homburg, Workman & Jensen, 2000). In this dissertation, the organizational transformation towards a more customer-focused company was part of the corporate strategy development at KONE throughout the investigated time frame. For instance, "Customer Focus" was one of the new strategic development programs that were launched in 2005. The program continued until 2010, after which it was renamed "Customer Experience" in 2011, and then "First in Customer Loyalty" in 2014 (see Table 4). It would be interesting to extend this research to examine the role of the marketing function in the adoption of the customer-focused approach as well as how these activities emerge through the induced and autonomous strategy processes (Burgelman, 1983) in exploration-exploitation transition.

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