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**Managing the tensions of innovation and efficiency in the  
pursuit of organizational ambidexterity**

**by**

**Angeliki Papachroni**

A thesis submitted in partial fulfillment of the requirements  
for the degree of doctor of philosophy

University of Warwick, Warwick Business School,

June, 2013

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## **DECLARATION**

This thesis is submitted to the University of Warwick in partial fulfillment of the requirements for the degree of Doctor of Philosophy. The work presented here is my own, except where specifically stated otherwise, and was performed in Warwick Business School, at the University of Warwick under the supervision of Professor Loizos Heracleous and Dr. Sotirios Paroutis during the period October 2009 to March 2013.

## **ABSTRACT**

Whereas organizational ambidexterity is increasingly gaining ground in organizational theory, key issues regarding how ambidexterity is conceptualized, achieved and sustained offer partial insights or remain unexplored. Current approaches to ambidexterity so far have followed rather static and single level approaches to ambidexterity, without further exploring the underlying mechanisms of how ambidexterity is pursued in practice and through which mechanism and processes tensions are managed. In order to address this gap, this research adopts a holistic approach to the study of ambidexterity exploring tensions at different organizational levels. Based on a case study research in two organizations in pursuit of ambidexterity this research brings forward a view of ambidexterity that is complex and dynamic, as it involves the co-existence of different tensions and modes of balancing within different organizational groups. Research findings contribute to the study of ambidexterity at two main levels: tension manifestation (which tensions arise at each organizational group) and tension management (the mode of balance pursued in each case). Following a micro-level approach to the research of ambidexterity, findings bring forward the role of organizational actors in the management of tensions: based on how individuals perceived tensions (as complementary, conflicting, or interrelated), their organizational level and their strategic orientation different modes of balancing were pursued. As a result this research contributes to the theory of ambidexterity by identifying a path dependent process of managing tensions based on how individuals perceive the nature of the tensions. As literature on ambidexterity is shifting towards the importance of agency, gaining this understanding is a crucial step towards how ambidexterity is achieved.

## CHAPTER 1. INTRODUCTION

### 1.1. Research aim & objectives

In an ever more turbulent and complex competitive environment scholars and practitioners have highlighted the need for organizations to be ambidextrous, efficient in today's business by exploiting their current capabilities and adaptive to the demands of the environment by exploring and developing new competencies (Bahrami, 1992; Birkinshaw & Gibson, 2004; Duncan, 1976; Raisch & Birkinshaw, 2008; Tushman & O'Reilly, 1996). This balance of exploration and exploitation has been suggested to lead to superior organizational performance and long-term competitive advantage (O'Reilly & Tushman, 2004).

Further empirical evidence indicates that the ability to be both aligned to the existing environment as well as adaptive to possible turbulence is positively linked with firm performance as ambidextrous organizations can be superior to other organizational structures in terms of meeting their innovation goals without affecting negatively the competitive performance of their existing business (Gibson & Birkinshaw, 2004; He & Wong, 2004; Jansen, Tempelaar, Van den Bosch and Volberda, 2009). However, the ability to simultaneously pursue exploration and exploitation activities poses some significant challenges to aspiring ambidextrous organizations that stem from the co-ordination of the different processes of exploiting (associated mainly with efficiency, refinement and implementation) and exploring (associated mainly with innovation and experimentation) (March, 1991).

Based on the premise that exploration and exploitation are opposing practices, studies on ambidexterity have mainly recommended a spatial separation of exploration and exploitation units under the common leadership of the top

management team (Tushman & O'Reilly, 1996). An alternative approach to this structural view of ambidexterity was proposed by Gibson and Birkinshaw (2004) who argued that ambidexterity stems from a business unit's context in facilitating individuals to pursue both exploration and exploitation activities.

Whereas in both approaches the key role of the individual has been highlighted (in the structural approach within the top management team and in the contextual approach within the business unit) empirical studies have yet to clarify how ambidexterity, namely the effective simultaneous pursuit of both exploration and exploitation, is achieved at the individual level. In particular there is notable lack of empirical evidence on how individuals actually perceive and manage the tensions of exploration and exploitation within everyday business practice. Overall, whereas research on ambidexterity is increasingly gaining ground, there is a notable lack in our understanding of "how organizations become ambidextrous and how different organizational levels interact in order to manage emerging tensions" (Contarello et al. 2012:28).

Building on the notion of contextual ambidexterity that argues for the organizational factors that can promote ambidexterity within a single business unit the aim of the proposed research is to move the debate forward in terms of *how individuals manage the tensions arising from the balance of exploration and exploitation*; a research area that has been argued by scholars as key for the further conceptualization of organizational ambidexterity (Raisch, Birkinshaw, Probst & Tushman, 2009). In this context the objectives of this research are twofold:

1. To explore of how organizational actors within organizations in pursuit of ambidexterity perceive and manage exploration and exploitation tensions.

2. To explore the role of the organizational context in the management of these tensions.

These questions become even more crucial as responsibility for an ambidextrous orientation is no longer isolated at the top management team but is cascaded throughout the organizations. Today innovation, exploring new ideas or continuous improvement is increasingly becoming responsibility of almost all employees (Martini et al., 2013). Ambidexterity thus shifts from being only a strategic issue, to being one profoundly organizational; and in that sense more complex to theorize and manage. This research provides empirical evidence on how an ambidextrous strategy is perceived by and enacted by individuals within two organizations in pursuit of ambidexterity.

By bringing together both levels of analysis (the individual and the organizational context within which actors operate), this research contributes further to the literature on contextual ambidexterity, which has scarcely been researched (Güttel and Konlechner, 2009, Gibson and Birkinshaw, 2004). More specifically whereas the literature on ambidexterity has often referred to contextual antecedents (leadership characteristics, power of a unifying vision, need for a supportive organizational context) the impact of these contextual factors on the management of ambidexterity tensions received limited attention (Güttel and Konlechner, 2009, Brion et al., 2010, Birkinshaw and Gibson, 2004). This research also follows research calls that highlight the key role of individuals across levels for the pursuit of ambidexterity (Mom et al., 2009, McCarthy and Gordon, 2011, Lin and McDonough Iii, 2011, Cantarello et al., 2012).

## 1.2. Methodology

*Research Method.* In order to explore how actors perceive and manage exploration and exploitation tensions within an ambidextrous context, the case study method is selected. This is considered a suitable research methodology for this type of inquiry as it not only enables a situation to be described and explained but also allows a theory to be developed and constructed, based on rich data. Through conducting a case study the holistic and meaningful features of real life events are focused on as the phenomenon under investigation, situated in and informed by a specific real life context (Yin, 1984). Such study of a particular phenomenon in context offers depth and richness to the empirical data drawn as it considers the perspectives of the social actors (Hamel, Dufour & Fortin, 1993).

In order to explore and extend the emerging concept of organizational ambidexterity, two organizations that manage the challenges of the simultaneous pursuit of exploration and exploitation have been selected. In particular the selected organizations have gone through substantial organizational change in order to achieve ambidexterity prior to as well as during the study, making both settings a very fruitful context to explore both how tensions of ambidexterity are perceived and managed at the individual level but also the organizational factors that influence these and practices. Both organizations, a telecommunications company (Telco) and a higher education organization (The School), operate in highly competitive environments and are undergoing organizational change in the pursuit of ambidexterity.<sup>1</sup> In these knowledge intensive environments the individuals of both organizations face intense pressures to achieve ambidexterity at the individual level, as both organizations have introduced a series of changes

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<sup>1</sup> Both organizations are based in the UK. In the case of Telco, Interviewees included regional managers and senior managers based in the company's Scandinavian Headquarters.



whereby newness, innovation and exploration are paired with efficiency, and process improvements to enhance exploitation.

Within these organizations four embedded cases explore the different manifestations and management approaches of the exploration/exploitation tension, following a multiple embedded case approach (Yin, 2009). The multiple embedded case study method offers not just the ground for data collection across different levels of the organization but also the opportunity for more refined analysis within and across organizational levels, leading to more compelling and robust evidence (Heriot & Firestone, 1983). Each embedded case constitutes a case where tensions are explored in depth in terms of how they are perceived and managed. In this approach, through individual and cross-case analysis each case contributes to the understanding of patterns across cases. These cases represent key groups within the organizations that deal with tensions of efficiency and innovation. In order to examine the organizational factors that affect ambidexterity, the research focuses on three attributes, namely the organization's culture (values, norms, underlying assumptions), structure, as well as the role of incentives (both monetary and non-monetary ones) in pursuing both exploration and exploitation activities. In the preliminary analysis the notions of paradox and balance have been a central recurring theme and different manifestations of the exploration/exploitation tension draw attention to alternative approaches to the management of these tensions.

More specifically, Telco's organizational structure has shifted towards regionalization (24 market units consolidated to 10 regions), a process that was followed by internal and external organizational change at all levels in order to achieve greater efficiencies by sharing resources and improving the common ways

of working across the regions, but also fostering and de-centralizing innovation in the context of regions. At the same time the aim of the internal alignment has been followed by a renewed focus on innovation, through the introduction of a global innovation scheme that places innovation at the heart of everyday practice. Tensions of exploitation- related to efficiency- and exploration -related to innovation- are researched at two levels of the organization (operations/ middle management and senior management),

In the School, the organizational change has been driven by a new strategy and vision for the organization followed by a new management team. Tensions of exploration and exploitation are in this case evident as the organization strives to achieve a balance between efficiency and differentiation through innovation and research excellence. The different manifestations of these tensions are studied at the academic and the administrative level each comprising a different embedded case. In parallel the organizational factors that influence the management of these tensions are also studied.

The two organizations under study shed light on various forms of innovation (technological innovation, management innovation) and how these are balanced with the need for efficiency. In aiming for a balance portrayed in both organizations' changes in pursuit of ambidexterity, a great deal of emphasis is placed on human capital as a key asset of the organization. In both contexts individuals act as knowledge workers, each having to manage tensions of ambidexterity. In that context, this research sheds some light on key aspects of how tensions of ambidexterity are manifested and managed at the individual level. Furthermore, the selected organizations provide a fruitful ground to study the organizational factors underpinning the management of these tensions, as both are

faced with profound organizational changes in pursuit of ambidexterity. The multiple cases offer a more robust and rounded view of ambidexterity tensions. A main aim of the research is to link these different manifestations with their subsequent management, each adding a piece of the puzzle of how organizational tensions can co-exist and interact within and across organizational levels.

***Methods of data collection.*** Following a longitudinal multiple case study methodology empirical research spanned a period of 22 months (November 2010-September 2012), allowing for an in depth exploration of how tensions of ambidexterity were manifested and managed overtime. Immersing into a real-life context the case study method offered a holistic view of the phenomenon under research and also the valuable opportunity to inform the research with new perspectives and ideas as these emerged throughout the data collection process.

Within the case study method, multiple methods of data collection were being used, so as to permit the triangulation of the data and inform the analysis with more robust constructs. More specifically, in order to explore how individuals perceive and manage the tensions arising from this simultaneous pursuit of exploration and exploitation, I conducted 60 in-depth interviews with employees of two levels of each organization (30 interviews in each case organization). These interviews were semi-structured and open-ended, allowing the interviewees to expand on the issues that they perceive as important relating to the organization's pursuit of exploration and exploitation. The goal of the interviews was to move from the organizational to the individual level, namely how the individual respondent perceived and managed ambidexterity tensions within his/her everyday activities and how the organizational environment influenced this behavior. Questions included for example how the organization

deals with the simultaneous pursuit of exploration and exploitation, how do individuals deal with simultaneous demands for efficiency and innovation, and also what is the role of the organizational environment in facilitating this behavior.<sup>2</sup>

Apart from the in-depth interviews, other sources of data collection were employed such as publicly available archival data and also key internal documents such as company reports and other strategic planning documents. Non-participant observation has also been key so as to gain a holistic and detailed view of how the organization plans for and deals with the demands of both efficiency and innovation. This research followed a longitudinal approach whereby empirical research is conducted in two time periods. This dynamic, iterative process of data collection and analysis gives the opportunity to reflect on the data as they emerge and re-focus, or refine the definitions of the constructs in accordance to the emerging context (Eisenhardt, 1989).

***Method of analysis.*** Following a grounded theory approach three distinct yet overlapping processes of analysis are used: open coding (exploring the data and identifying relevant categories), axial coding (looking for interconnectedness of categories) and selective coding (a core code and the relationship between that core code and other codes is identified and the coding scheme is compared with pre-existing theory). This method of analysis is considered appropriate as Glaser and Strauss (1967) proposed grounded theory as a practical method for conducting research that focuses on the interpretive process by analyzing how social actors in real settings produce meaning and concepts. The analysis aimed to shed some light on the different manifestations of the exploration/exploitation tension in

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<sup>2</sup> See the APPENDIX for an analytical breakdown of interviews per organization and interview structure.

different organizational settings and also draw inferences between the individual's perception on the nature of the relationship between the two poles of the tension and its subsequent coping mechanisms.

### **1.3. Research contribution**

Whereas organizational ambidexterity is emerging as a new research paradigm in organizational theory, key issues regarding how ambidexterity is conceptualized, achieved or sustained offer partial insights. Building on the notion of contextual ambidexterity that emphasizes the organizational factors that can promote ambidexterity within a single business unit, the aim of this research is to move the debate forward in terms of what specific tensions are perceived by individuals, and how individuals manage tensions that arise from attempting to balance innovation and efficiency; a research area that has been argued by scholars to be key for the further conceptualization and understanding of organizational ambidexterity (Raisch, Birkinshaw, Probst & Tushman, 2009). Addressing the 'what' and 'how' contributes to two of the constituent elements of social theory development (Whetten, 1989).

This study contributes to the research on how organizational actors perceive and manage tensions stemming from an organization's pursuit of both innovation and efficiency. This is considered a significant area in the study of organizational ambidexterity since empirical evidence on how individuals actively manage tensions remains scarce.

More specifically, a longitudinal, multiple embedded case methodology within organizational contexts that aim to manage the tensions of innovation and efficiency, offers rich insights to innovation and efficiency tensions, in particular how these tensions are manifested within different organizational groups and

which modes of balance are pursued in each case. In this context this research is based on a shift from the more static notion of balance -as a normative assumption that prevails in the literature so far- to the process of balancing manifested in the efforts of individuals and organizations to achieve and sustain ambidexterity over time.

Second, this research this research puts forward and builds on the literature on paradox, as a lens to explore the contradictions and organizational tensions engendered by organizational efforts towards ambidexterity. A paradox perspective argues that long-term sustainability is based on the continuous and simultaneous pursuit of multiple, divergent demands (Smith and Lewis, 2011). Shifting from an either/or to a both/and lens, paradox literature offers thus valuable insights for conceptualizing exploration and exploitation tensions, not necessarily as mutually exclusive but as dynamic, interwoven polarities. The basic premises of paradox theory as well as issues regarding the nature of the relationship between two poles of a paradox (whether these are complementary, contradictory, or have some other relationship) and the alternative ways of dealing with tensions, proposed by this literature form the basis of the analysis. Following a stream of research that places contradictions and paradoxes in the center of organizational science (Lewis, 2000; Poole & Van den Ven, 1989, Andriopoulos & Lewis, 2009; Smith and Tushman, 2005), a main contribution of this research is to present the paradox management literature as a lens to rethink ambidexterity and to provide fresh insight on how tensions can be managed, contributing to both theory and practice.

Finally, this research brings forward a dynamic view of ambidexterity, consisting of multiple tensions that emerge simultaneously across organizational

levels yet are managed in different ways. A path dependent view of dealing with ambidexterity tensions is proposed in an effort to untangle this challenging and complex issue of managing multiple tensions simultaneously. Based on empirical findings this research proposes that how actors perceive and manage tensions is very much dependent on where they are located in the organization and their strategic orientation. Through a coping mechanism, which is here defined as “reframing” organizational actors render the poles of the tension relevant to their level and strategic orientation, thus are actively involved in a process of tension management. This pragmatic way of managing tensions provides an alternative to the notion of paradoxical cognition which has emerged as a key mechanism for managing tensions at the individual level (Smith and Tushman, 2005).

Overall, this research contributes to the research on ambidexterity by proposing that the pursuit of an ambidextrous orientation is not limited to one single type of tension (innovation vs. efficiency/ exploration vs. exploitation etc) but is followed by the manifestation of latent tensions within different organizational levels. At the same time findings suggest a plurality of management approaches suggesting that instead of integration or separation strategies, a mix of approaches, even within the same group, might be pursued. This dynamic view of ambidexterity stands opposite the static and single level approaches that have prevailed in the literature so far and follows research calls for a more fine grained and complex approach to the study of ambidexterity (Raisch and Birkinshaw, 2008).

#### **1.4. Thesis structure**

The thesis begins with a review of the literature of organizational ambidexterity, the evolution of the concept and the key approaches to

ambidexterity at both the organizational and the individual level as these have appeared in the literature (Chapter 2). The key issues and fundamental assumptions of the ambidexterity literature are discussed and the literature on paradox is brought forward as a lens to explore tensions not necessarily as contradictory but as potentially complementary dualities that can be managed in different ways. The chapter finishes with the key aims of the research.

In the following chapter (Chapter 3.), I describe the methodology and the philosophical commitments that have guided my research. The research design is presented as well the process for data collection and data analysis. Chapters 4 and 5 are dedicated to the analysis and emerging findings of each case organization. Both chapters follow a similar structure: an introductory case report presents the organizational approach to ambidexterity as well as further contextual issues that are related to the pursuit of an ambidextrous orientation. Then, I continue with the analysis and findings of each embedded case; the tensions that are manifested at each level and the subsequent management approaches that are pursued.

Chapter 6 presents a cross case analysis of all four embedded cases. In this chapter the key elements of each case are compared and contrasted so that the overarching patterns within findings are identified. The key implications of the findings for theory and practice are briefly described. Finally in Chapter 7, I discuss the findings and emerging patterns from the research in relation to the current theory on ambidexterity. The contribution of the thesis is discussed and the thesis ends with a discussion on the theoretical and practical implications, the limitations and the opportunities for further research as these emerge from the research.



## CHAPTER 2. LITERATURE REVIEW

In the era of continuous and disruptive change a persistent challenge in the study of organizations is the ability of a firm to both exploit its current capabilities and explore new ones in order to ensure short term efficiency and long term growth (March, 1991, Raisch et al., 2009, D'Aveni, 1994). Whereas trade-offs between these two processes were often considered insurmountable by traditional strategy theory (Porter, 1980) research on ambidextrous organizations has provided evidence that the simultaneous pursuit of exploration and exploitation is indeed both feasible and beneficial to organizational performance (Tushman and O'Reilly III, 1996, He and Wong, 2004). However, key issues in terms of how ambidexterity is achieved and sustained in practice at different organizational levels remain largely unexplored, posing the need for more refined and granular research approaches (O'Reilly III and Tushman, 2011).

Whereas almost consensus exists on the need for simultaneous pursuit of exploration and exploitation within ambidexterity literature, there is less clarity on how this challenge can be met resulting to research calls for more focused views of how ambidexterity is achieved and sustained, rather than its performance implications (Raisch et al., 2009). However, theories about how organizations can achieve ambidexterity are very much depended on how ambidexterity is conceptualized, the level of analysis and most importantly whether these two tasks are considered competing or complementary aspects of the organizational phenomena in question (Gupta et al., 2006). Research on organizational ambidexterity to date has predominantly focused on either a single level of analysis (Simsek, 2009) or a single mode of managing tensions, through either integration or separation strategies (Raisch et al., 2009).

The following chapter identifies and critically engages with the main approaches to ambidexterity as these have appeared in the literature and introduces the paradox management theory not only as a lens to conceptualize dualities but as an active way of managing them. This structure of the literature then serves as analytically informing to the research questions the research aims to address.

### **2.1. Organizational ambidexterity: evolution of the concept.**

Organizational ambidexterity was firstly used as term by Duncan (1976). He proposed that dual structures should be formed within the organization so as to support the initiation and the execution phases of an innovation. According to his view, these phases are sequential following the innovation cycle<sup>3</sup>. The renewed interest in the concept of ambidexterity, however, is attributed to March's seminal article on exploration and exploitation processes of organizational learning (1991). In his analysis exploration and exploitation are described as two fundamentally different activities, whereby exploitation refers to "refinement, efficiency, selection and implementation" and exploration is associated with "search, variation, experimentation and innovation" (March, 1991:71).

The two processes are regarded as incompatible leading to organizational tensions as both compete for scarce resources and entail different capabilities within the organization; experimenting and exploring is more time consuming, entails uncertain results and has a longer time horizon than refining current knowledge and extending current competencies yet March underlines the need for a balance between the two for superior organizational performance (1991). Firms overemphasizing on exploration or exploitation risk getting caught into failure

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<sup>3</sup> View of ambidexterity as temporal sequencing is evident also in current research on organizational adaptation (O'Reilly and Tushman, 2008).

traps or success traps respectively (Levinthal and March, 1993). Quinn and Cameron also refer to this process of negatively reinforcing cycles as the unproductive schismogenesis; a process of self-reinforcement where “one action or attribute perpetuates itself until it becomes extreme and therefore dysfunctional” (1988:6).

Building on this argument ambidexterity challenged the notion supported mainly by traditional research in strategy that attempting to pursue different strategies results in firms being “stuck in the middle” (Porter, 1980) or being mediocre in both exploration and exploitation (O’Reilly III and Tushman, 2008, Ghemawat and Costa, 1993). Shifting from a trade-off view of innovation and efficiency organizational ambidexterity provides evidence for the internal and simultaneous pursuit of both, highlighting the need for paradoxical (both/and) thinking in organizations in order to manage the contradictory demands of exploration and exploitation (Raisch and Birkinshaw, 2008, Lewis, 2000, Jansen et al., 2009b). Current strategy research has proposed dual business models, as a way for firms to pursue conflicting strategies (Markides and Charitou, 2004, Markides and Oyon, 2010), a term that has been termed strategic ambidexterity (Judge and Blocker, 2008). The table below provides an overview of the different types of ambidexterity as these have appeared in the literature.

**Table 2.1. Types of ambidexterity**

Type	Definition	Literature Stream
<b>Organizational Ambidexterity</b>		
<i>a. Structural Ambidexterity</i>	Managing two distinct alignments simultaneously  <i>Ambidextrous organizations are those able to implement both evolutionary and revolutionary change.</i>	Organizational Adaptation Organizational Design

	(Tushman & O'Reilly, 1996)	
<b>b. Contextual Ambidexterity</b>	Managing a single business unit with both alignments  <i>Contextual ambidexterity is the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit (Gibson &amp; Birkinshaw, 2004)</i>	Organizational Learning Organizational culture
<b>Strategic Ambidexterity</b>		
	Managing dual business models  <i>An ambidextrous organization is the organization that's capable of competing with dual business models in the same industry (Markides &amp; Oyon, 2010)</i>	Strategic Management

Overall, the conflicting demands of exploration and exploitation and the argument of not pursuing the one at the expense of the other have been in the center of attention by researchers in various literatures from organizational learning (Argyris and Schon, 1978, March, 1991, Levinthal and March, 1993, Gupta et al., 2006) to strategic management (Abell, 1999, Jansen et al., 2008, Lubatkin et al., 2006, Markides and Charitou, 2004, Markides and Oyon, 2010, Hamel and Prahalad, 1993), technological innovation (O'Reilly III and Tushman, 2004, Tushman and O'Reilly III, 1996, He and Wong, 2004, Gary, 2003) organizational design (Duncan, 1976, Jansen et al., 2005, Graetz and Smith, 2005) organizational theory (Adler et al., 1999, Benner and Tushman, 2003) and organizational behavior (Birkinshaw and Gibson, 2004, Gibson and Birkinshaw, 2004). All of the above highlight the importance of managing conflicting demands within increasingly competitive and continuously changing markets and have offered a rich overview of the different types of tensions that emerge in pursuing both exploration and exploitation (see Table 2.2 below).

**Table 2.2. Exploitation, exploration tensions in different literature streams**

	<b>Exploitation</b>	<b>Exploration</b>	<b>Tensions</b>	<b>Key Authors</b>
<b>Organizational Learning</b>	Single-loop learning Knowledge through existing routines Refinement Implementation	Double loop learning Knowledge through experimentation Search Variation	Old/ New	Argyris & Schon, 1978; March, 1991; Levithal & March, 1993; Gupta, Smith & Shalley , 2006, Mom et al, 2007
<b>Technological Innovation</b>	Incremental Innovation Minor adaptations of existing products and business concepts to meet existing consumer needs	Radical Innovation Fundamental changes leading to new products or business concepts to meet emergent consumer needs	Capability /Rigidity	Tushman & O'Reilly, 1996; Tushman & Smith, 2002, Benner & Tushman, 2003
<b>Organizational Adaptation</b>	Convergence Alignment	Revolutionary/ Discontinuous Change Radical transformation	Continuity/ Change Chaos/ Inertia	Volberda, 1996; O'Reilly, Harrel & Tushman, 2009, Huy, 2002
<b>Strategic Management</b>	Induced Strategy Processes Initiatives within current scope Build on existing competencies Static efficiency	Autonomous Str. Processes Initiatives outside current scope Build on new competencies Dynamic efficiency	Leverage/ Stretch	Hamel & Prahalad, 1993; Markides & Charitou 2004; Markides & Oyon, 2010, Ghemawat, & Costa, 1993.
<b>Organizational Design</b>	Mechanistic Structures Centralization Hierarchy	Organic structures Decentralization Autonomy	Efficiency/ Flexibility	Duncan, 1976; Jansen, Van den Bosch, & Volberda, 2005; Tushman & O'Reilly, 1996

## **2.2. Tensions of efficiency and innovation in the pursuit of ambidexterity.**

Given the variety of phenomena that have been studied under the unifying concepts of exploration and exploitation (Lavie et al., 2010), a study on the tensions of ambidexterity would not be complete unless the notion of exploration and exploitation under study was carefully defined. According to Tushman and O'Reilly III (1996) ambidextrous organizations are those who can manage different innovation streams simultaneously. However, as organizations need to adapt to complex and ever changing competitive environments the notion on ambidexterity is increasingly related to tensions stemming from the need for organizational adaptation (Ingram et al., 2008). Dover and Dierk (2010) describe this dual demand:

*On the one hand, firms need to optimize processes, organizational structure, staffing procedures, to be faster, more cost efficient and responsive to current markets. Such focus allows success in the present and near future. But this does not at all ensure continuity in the longer run. In order to achieve this, companies must also regularly assess their vision, encourage innovation, be willing to adjust or change strategies, products and markets and more. In order then to sustain both short and long term futures companies must work simultaneously on doing the same things better while stimulating and responding to change (doing things differently). (p.49)*

In that context innovation does not only relate to technology but becomes broader in scope as a driver of both evolutionary and revolutionary change (Gupta et al., 2007), a critical source for competitive advantage linked with an organization's ability to adapt and grow (Cantarello et al., 2012, Benner and Tushman, 2003, Brown and Eisenhardt, 1997).

A firm that simultaneously engages in innovation and efficiency activities follows an approach that has been referred to as an ambidextrous strategy and

whereas traditional strategy theory has argued that it is this exact pursuit of both that may lead to mediocre performance (Porter, 1980), ambidexterity argues for the pursuit of both within a fast paced competitive environment (Sarkees and Hulland, 2009). In that context tensions of ambidexterity stem not only from managing different innovation orientations but managing the conflicting pressures of pursuing innovation while maintaining focus and efficiency.

Following March's definition on exploration (related more to innovation) and exploitation (related more to efficiency) this research explores the conflicting demands of innovation and efficiency as a way of pursuing ambidexterity. This innovation/efficiency duality then follows Simsek (2009) and Gupta et al. (2006) who conceptualize ambidexterity as based on the type of learning entailed in both exploration and exploitation activities rather than differentiating them on the basis of presence of absence of learning.

This balancing act becomes more challenging given that innovation is based on creative thinking and exploratory actions whereas efficiency is related to routine performance and exploitation of skills and knowledge (Bledow et al., 2009). Further complexity is added, if we take under consideration the various types of innovation (from radical to incremental) and that innovation is a two-level phenomenon that includes both an actor (an individual, a group, an organization) and the environment in which the actor operates (Gupta et al., 2007).

The pursuit of ambidexterity is thus related to managing tensions arising at different levels. And whereas multiple approaches have been suggested by the literature, how organizations build an ambidextrous capability or how these tensions are managed remain largely unexplored (Bledow et al., 2009, Cantarello

et al., 2012). The dual-level approach of this study (at both the organizational and individual level) allows us to explore how these tensions are cascaded throughout the organization, how these are perceived and eventually managed following a stream of research that focuses on innovation as a process rather than an outcome (Brion et al., 2010, He and Wong, 2004).

The following section discusses the main approaches to ambidexterity proposed by the literature and the underlying assumptions of these propositions.

### **2.3. Approaches to organizational ambidexterity**

Based on March's (1991) definition of exploration and exploitation as distinct and opposing learning processes, research on ambidexterity has viewed exploration and exploitation as two ends of the same continuum, competing for scarce resources and realized through opposing organizational capabilities. In this context, ambidexterity is conceptualized as managing the tensions and conflicts that arise from these activities to find the appropriate balance between the two. Ambidexterity is thus used as a metaphor for organizations that are equally dexterous at managing conflicting demands (Simsek, 2009). Research on the concept of ambidexterity first followed a structural approach of spatial separation between explorative and exploitative business units (Tushman and O'Reilly, 1996). A later conceptualization by Gibson and Birkinshaw (2004) complemented this view with empirical evidence that ambidexterity also stems from an organizational unit's supportive organizational context. More recently scholars have focused on the role of linking mechanisms that should be in place between exploration and exploitation units as well as the leadership characteristics that facilitate dealing with the tensions arising (Lubatkin et al., 2006, Smith and Tushman, 2005, Beckman, 2006).



Additional research on exploration/exploitation tensions questioned the inherent contradiction between exploration and exploitation suggesting that both activities can be treated either as two ends of a continuum or as orthogonal to each other depending on the focus on a single or multiple levels of analysis (Gupta et al, 2006). In this context exploration and exploitation can be viewed as independent processes, where organizations can maintain a high level of both activities and no pursuit of balance between the two is needed (Gupta et al, 2006; Lubatkin et al. 2006). Cao et al. (2009) explore this fundamental conceptual difference when they discuss about the balanced and the combined dimension of ambidexterity. According to the balanced view, exploration and exploitation are viewed as two ends of the same continuum, inherently contradictory, in a tradeoff situation. On the other hand, the combined dimension of ambidexterity, which argues against the inherent tension between exploration and exploitation, views them as independent, orthogonal to each other so that organizations can pursue a high level of both and no balance needs to be achieved. In this context, Cao et al. (2009) underline the positive effects of exploitation on exploration as a “high degree of exploitative effort can often improve a firm’s effectiveness in exploring new knowledge and in developing resources that support new products and markets” (p.784). Lavie, Stettner and Tushman (2010) also highlight this positive relationship between exploration and exploitation in terms of knowledge application where the newly acquired knowledge (exploration) soon becomes exploited (exploitation) as the organization integrates it to its main operations.

This conceptual ambiguity regarding the relationship between exploration/exploitation tensions raises some interesting questions on whether there is a necessary conflict within these two processes and under which circumstances. As

Gupta et al. note 'although near consensus exists on the need for balance [of exploitation and exploration], there is considerably less clarity on how this balance can be achieved' (2006:697). This research argues, however, that theory about how organizations can achieve ambidexterity is very much dependent on the level of analysis and most importantly on whether these two tasks are considered competing or complementary aspects of the organizational phenomena in question.

The section below presents the main approaches of balancing exploration and exploitation at both the organizational and individual level, as these have appeared in the literature. The fundamental assumptions relating to the nature of exploration and exploitation tensions in every approach are also discussed.

### **2.3.1. Managing tensions of exploration and exploitation at the organizational level.**

#### **Organizational approaches based on separation.**

*Structural separation.* According to Tushman and O'Reilly (1996) ambidextrous organizations manage simultaneously short-term efficiency and long-term growth through the structural separation of exploration and exploitation in different business units. Based on the premise that the culture of incremental innovation often creates an institutional hostility towards discontinuous innovation and that both are competing for scarce resources, the authors argue for separate structures within the same organization to accommodate what are argued to be opposing competencies, systems and practices of exploration and exploitation. Exploratory units are conceived as small, decentralized, and with loose processes in contrast to exploitative units that are described as larger and with tighter processes (Benner and Tushman, 2003; Tushman and O'Reilly, 1996). O'Reilly

and Tushman (2004) emphasize the role of the top management team as the “corporate glue” that holds the organization together by managing the tensions that arise between exploitation (incremental innovation) and exploration (discontinuous innovation).

In an effort to respond to the need for integration mechanisms between structurally separated units, further research underlined the role of social and behavioral integration of the Top Management Team in ensuring strategic coherence and balanced resource allocation (Jansen et al., 2009b, Lubatkin et al., 2006). In order for senior teams to accommodate contradictory strategic agendas for both exploratory and exploitative innovation Jansen et al. (2008) underline the need for a shared vision, contingency rewards and director’s transformational leadership.

Shifting the level of integration from the senior team to the middle-level management, Jansen et al. (2009a) argued for the use of cross-functional interfaces (such as liaison personnel, task forces and teams) as a means of enabling knowledge exchange within organizational units that manage exploration and exploitation. At the group level Fang et al. (2010), argue that exploration and exploitation can be successfully managed through semi-autonomous subunits with a small fraction of cross-group links such as inter-team liaison roles, personnel rotation or interdivisional task forces. This mixture of differentiation and integration allows for both the preservation of variety of knowledge within an organization and the identification of valuable synergies.

***Parallel Structures.*** Raisch and Birkinshaw (2008) also underline the use of parallel structures as an alternative structural approach to spatial separation. Parallel structures, in the form of secondary structures like project teams or

networks allow for organizations to switch between structures according to needs for exploration or exploitation in the context of a single business unit. Parallel structures is not a new concept as they have also appeared in the literature in the forms of collateral organizations (Zand, 1974 ) or shadow organizations (Goldstein, 1985). Whereas parallel structures are considered a useful solution to the threat of isolation between structurally separated units (Devins and Kähr, 2010), the concept has not been further explored in the context of organizational ambidexterity, offering an opportunity for further research.

*Temporal balancing.* Other approaches to managing exploration and exploitation tensions suggest the use of temporal separation whereby an organization sequentially shifts between phases of exploration and exploitation (Jansen et al., 2005). Temporal balancing, defined as long terms of stability punctuated by short revolutionary changes (Devins and Kähr, 2010), is proposed in cases of major disruptions in a firm's competitive environment (Volberda, 1996) or more recently as an alternative to the simultaneous approach to balancing exploration and exploitation (Siggelkow and Levinthal, 2003, Geerts et al., 2010). The organizational structure during temporal balancing is argued to move from a mechanical structure (centralization) to organic structures (decentralization) as organizations move from exploitative to explorative phases accordingly (Devins and Kähr, 2010).

Theory on punctuated equilibrium supports organizations' cycling between periods of exploration and periods of exploitation (Simsek, 2009, Gupta et al., 2006), adopting a discontinuous approach to how organizations respond to change (Güttel and Konlechner, 2009). In a similar vein, Duncan (1976) proposed that organizational ambidexterity depends on an organization's structural configurations

in order to meet the different demands of the innovation cycle. Similarly, Burgelman (1991) in his research in Intel Corporation argued for the sequential approach to exploring and exploiting, while Boumgarden et al. (2012) refer to “organizational vacillation” to describe firm’s dynamic capability of temporally and sequentially alternating between periods of exploration and exploitation. Based on a longitudinal case study on two organizations (HP and USA today) the authors compare and contrast the ambidexterity approach with that of organizational vacillation over a period of 20 years and support the argument that a sequential rather than a simultaneous approach better describes both firms’ approach to exploration and exploitation. These findings highlight the crucial role of time in relation to how organizational ambidexterity is conceptualized, and the importance of longitudinal data for exploring how exploration and exploitation tensions evolve over time (Uotila et al., 2009).

### **Organizational Approaches based on integration**

*Contextual approach to ambidexterity.* Further research on ambidextrous organizations complemented the structural approach of Tushman and O’Reilly (1996) (separated business units following distinct innovation streams, under one common leadership) with a contextual view that puts forward social and behavioral mechanisms for ambidexterity. Ambidexterity in that context is more broadly defined as a firm’s ability to pursue both adaptability<sup>4</sup> and alignment<sup>5</sup>, based on the need for firms to combine innovation and proactiveness with operation excellence and efficiency (Birkinshaw and Gibson, 2004).

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<sup>4</sup> The ability to move quickly towards new opportunities, adjust to volatile markets and avoid complacency

<sup>5</sup> The ability to exploit value of proprietary assets, rolling out existing business models and reducing costs from current operations.

Building on Ghoshal and Bartlett (1994), this contextual approach conceived of ambidexterity as emerging through a business unit's organizational context, defined as the combination of performance management and social support (Gibson and Birkinshaw, 2004). Whereas in this study Gibson and Birkinshaw define ambidexterity as an organizational capability that can be built within the same unit - arguing that a unit can become ambidextrous - the behaviors identified as ambidextrous, relate more to certain managerial jobs than everyday behaviors and challenges that organizational actors have to deal with, an issue noted in the context of their study; highlighting a gap for further research in terms of how tensions of exploration and exploitation are managed within the same unit. Jansen et al. (2005) moreover support empirically the argument that organizational units can overcome tensions and pursue exploration and exploitation simultaneously with a positive relation to performance, but the concept of contextual ambidexterity is not explored further. Following a survey based research in 108 innovative firms Brion et al. (2010) underline the role of risk taking and creativity in creating an organizational context that balances both short term focus and long term adaptability. At the same time, managers' competence development was found to play a moderating role between the organizational context and the pursuit of ambidexterity. Güttel and Konlechner (2009) described another approach to contextual ambidexterity based on formal structures to loosely coupled project teams and the existence of an integrative frame of reference between TMT and employees that provided a social foundation for moderating conflicts.

### **2.3.2. Managing tensions of exploration and exploitation at the individual level.**

Shifting from the organizational level the concept of ambidexterity is also complemented by research at the individual level based on the notion that ambidextrous organizations need leadership teams that are able to understand and be sensitive to the demands of both exploration and exploitation practices (O'Reilly III and Tushman, 2004). Both the structural and the contextual approach to ambidexterity highlight the important role of senior management role either in terms of integrating and managing the conflicting demands of exploratory and exploitative units (Tushman and O'Reilly III, 1996), or for creating a supportive organizational context for the pursuit of ambidexterity (Birkinshaw and Gibson, 2004).

Building on the literature of paradox and conflict that deals with contradictions not as an either /or choice but as complementary entities, Smith and Tushman (2005) focus on the strategic contradictions that the top management team has to face and argue for a paradoxical cognition that enables senior managers to deal with the contradictions of explorative and exploitative innovation. According to O'Reilly III and Tushman (2008) ambidexterity is defined as the paradoxical capabilities of senior management, a set of senior team decisions including structure, linking mechanisms, culture and senior team processes. Thus, ambidexterity is conceptualized as a “specific capability embodied in senior leadership’s learning and expressed through their ability to reconfigure existing organizational assets and competencies in a repeatable way to adapt to changing circumstances” (O’Reilly and Tushman, 2008:200). Further

research by Smith et al. (2010) on complex business models<sup>6</sup> also supports the role of leadership in managing paradoxical, contradictory strategies of exploration and exploitation within a global and increasingly fast-paced competitive environment. More specifically the authors argue that managing successfully a complex business model like an ambidextrous organization, depends on leaders' ability to make dynamic decisions, build commitment to both overarching visions and agenda specific goals, learn actively at multiple levels and engage in conflict. These studies bring to the forefront the concept of strategic contradictions- short term performance and long term adaptability, exploration and exploitation, focus and flexibility- and develop a set of ideas conceptualizing ambidexterity as a dynamic managerial capability based on paradoxical cognition.

Furthermore the role of the top management team in the pursuit of ambidexterity is explored in the context of resource allocation and decision making processes. Carmeli and Halevi (2009) argue that behavioral integration cultivates behavioral complexity within a top management team, leading to organizational ambidexterity. Furthermore according to their study, the relationship between TMT behavioral complexity and organizational ambidexterity is moderated by contextual ambidexterity (Carmeli and Halevi, 2009). From their part, Nemanich et al. (2007) explore the role of transformational leadership in promoting ambidexterity. The authors extend the work of Gibson and Birkinshaw (2004) by suggesting that creating a supportive organizational context is not the sole responsibility of the senior leadership team but that ambidexterity is also influenced by the internal context at the team level.

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<sup>6</sup> Complex business models are defined by the authors as those organizational designs that manage "the tensions of paradoxical strategies stemming from inconsistencies or contradictions in the products/ services, marketplace, and/or the processes, rewards and competencies associated with each strategy". (Smith et al., 2010:3)



Mom et al. (2007) examine bottom-up /top-down and horizontal knowledge inflows in relation to managers' exploration and exploitation activities. Based on a large-scale empirical survey the authors conclude that exploration and exploitation activities are complementary: top-down knowledge inflow is positively related to exploitation activities whereas bottom-up and horizontal inflows positively relate to exploration activities. In addition this study supports the argument that exploration and exploitation can be simultaneously achieved at the individual level.

Studies such as these by (Nemanich et al., 2007) and Mom et al. (2007) begin to scratch the surface of ambidexterity antecedents on a broader organizational context than the senior management team. According to the cognition perspective managers are faced with the complex task of absorbing, processing and disseminating information regarding all aspects of organizational life: problems, opportunities and issues related to everyday practice (Walsh, 1995). Furthermore, Birkinshaw and Gibson (2004) argue that ambidextrous behavior is characterized by the ability to take initiatives and recognize opportunities outside one's field of expertise; the search for cooperation; the ability to hold multiple roles; and the ability to identify potential synergies. In a similar vein, Mom et al. (2009) define ambidextrous managers as multitaskers, able to host contradictions, and refine and renew their knowledge, skills and expertise.

Focusing on the cognitive mechanisms for managing contradictory demands at the individual level, Eisenhardt et al. (2010) argue that organizational actors can also opt for what they call as "single, cognitively sophisticated solutions". Shifting from the view of ambidexterity as the ability of an individual

to manage dual contradictory solutions, this insight on coping mechanisms at the individual level brings forward the possibility of solitary solutions for managing tensions (Eisenhardt et al, 2010). In a similar vein, Adler et al. (1999) identified switching as a coping mechanisms used by employees in the Toyota production system that allowed them to perform tasks that were either systematic and predictable or flexible and novel.

Whereas there is a growing recognition that individuals play a key role for the pursuit of organizational ambidexterity there is limited empirical research that explores tensions of ambidexterity at the manager level (Mom et al., 2007). More specifically, what ambidexterity means for lower levels of the organization especially on a behavioral level of individuals and teams has received limited attention (Rosing et al., 2011). In other words, there is limited empirical evidence on *how* exploration and exploitation are perceived and managed at the manager level of analysis.

*Conditions for Ambidexterity.* The pursuit of ambidexterity poses some significant challenges for organizations stemming from the simultaneous balance of multiple and opposing demands. These difficulties raise some simple yet crucial questions that call for future research: Under which circumstances is the simultaneous pursuit of exploration and exploitation preferable?

Jansen et al. (2006) highlight the moderating role of the external environment in a firm's pursuit of ambidexterity. In this context, exploratory innovation<sup>7</sup> is shown to have a positive relation to firm performance within a dynamic environment (where there is a high rate of change and degree of

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<sup>7</sup> Defined as the pursuit of new knowledge and the development of new products and services for emerging customers or markets (Jansen et al.,2006)

instability) and exploitative innovation<sup>8</sup> has a positive relation to firm performance within a competitive environment, characterized by intense competition. Furthermore, O'Reilly III and Tushman (2008) propose that ambidextrous designs are most appropriate when the new opportunity to be explored by the organization is both strategically important and can benefit from the firm's existing assets and operational capabilities. In this context, the authors (based on previous empirical evidence) suggest that the conditions under which ambidexterity can be successfully achieved are: a strategic intent that encapsulates the importance of both exploration and exploitation activities, a compelling vision that promotes a unified identity for the organization, an aligned senior team that can understand and manage tensions and separated but with targeted integration of organizational architectures (O'Reilly and Tushman, 2008:197). Complementing these views further research on the conditions and environmental moderators of ambidexterity would add to the robustness of the concept and might also lead to different conceptualizations of ambidexterity.

#### **2.4. Fundamental assumptions and gaps in the literature**

One of the most persisting ideas in organization theory is that an organization's success is based on its capability of both exploiting its current capabilities and exploring new sources of competitive advantage. Research on ambidextrous organizations proposes that pursuing simultaneously these activities is no longer an insurmountable task (Raisch et al., 2009). Building on the work of Duncan (1976) and March (1991) conceptualizations of ambidexterity focus mainly on the structural differentiation of explorative and exploitative units, based

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<sup>8</sup> Defined as the use of existing knowledge and extension of existing products and services for existing customers (Jansen et al., 2006)

on the notion that these activities are competing on the basis of limited resources and require fundamentally different organizational capabilities.

#### **2.4.1. Organizational ambidexterity conceptualization.**

Although organizational ambidexterity has been in the spotlight it remains an under-conceptualized phenomenon, lacking a clear definition as it has been studied through various streams of literature, from organizational learning to innovation and strategic management (Raisch and Birkinshaw, 2008). In this context ambidexterity has been defined in terms of a structural configuration, a set of organizational processes and capabilities and a set of exploratory and exploitative outcomes (see Table 2.3.). Insights from these approaches have been studied independently with little cross-fertilization leading to a fragmented view of how ambidexterity is conceptualized and achieved (Simsek, 2009). Efforts to integrate these three approaches (structures, processes, outcomes) in a more encompassing theory by exploring further their interconnectedness would provide a more holistic and robust theory of ambidexterity, as today's various ambidexterity conceptualizations offer partial and limited propositions.

Apart from this conceptual ambiguity, research on ambidexterity has mostly focused on the performance implications of mainly structural and secondarily contextual ambidexterity, than on how this ambidexterity is achieved and under which circumstances (Kauppila, 2010, Durisin and Todorova, 2012). The contextual approach to ambidexterity offers a significant alternative to the structural approach of separate exploration and exploitation units that is often criticized in terms of not exploiting possible synergies between units or relying upon a series of integrating mechanisms that should be in place for the smooth operation of both units. Yet, the view of a business unit's capability of becoming

ambidextrous poses some significant issues that remain under-researched regarding ambidexterity at the individual level (Raisch et al., 2009).

In particular there is a notable lack of empirical evidence on how individuals actually perceive and manage the tensions of exploration and exploitation within everyday business practice, an area related to the process research of ambidexterity (Hotho and Champion, 2010). What are the everyday challenges that individuals face when confronted with the simultaneous need for alignment and adaptation, and through which practices and behaviors are these challenges faced? Studies in contextual ambidexterity by Gibson and Birkinshaw (2004) assume that ambidexterity is an inherent capability of certain organizational actors but mainly focus on describing ambidextrous behaviors in terms of certain managerial jobs. However, issues of ambidexterity as a dynamic capability that can be analyzed through organizational practices and routines at a more micro level remain underexplored (Nosella et al., 2012).

Furthermore, the conceptualization of ambidexterity could benefit from further research at the organizational level, through the exploration of the organizational factors that influence ambidextrous behaviors in an effort to provide a holistic view of the relationship between the organization and the individual in the pursuit of ambidexterity. This argument is also underlined by Markides and Oyon (2010) who argue that in order to achieve ambidexterity it is not sufficient for firms to follow generic tactics but rather seek to create the necessary organizational environment that will create ambidextrous behaviors.

As rightfully highlighted by Simsek (2009) research on ambidexterity to date has typically involved only one lens to explain the phenomenon, such as dual structures in the case of structural ambidexterity or organizational context in the

case of contextual ambidexterity. Whereas these approaches have been described as complementary (Birkinshaw and Gibson, 2004) their interconnectedness is yet to be explored. These gaps in the research of ambidexterity are also highlighted by scholars who call for a more dynamic and multi-level approach to the study of ambidexterity (Cantarello et al., 2012, Chandrasekaran et al., 2012, Nosella et al., 2012). As Boumgarden et al. (2012) note, the deeper organizational challenge is to explore tensions of ambidexterity in organizational levels where structural separation seems unfeasible, given the fact that the same issues of exploration and exploitation emerge within all levels of a nested system (March, 1991). In that context, as Nosella et al. (2012) underline, approaches to ambidexterity traditionally stem from a single, macro level of analysis without providing further evidence on the specific unit where tensions arise or the specific mechanisms and processes through which these tensions are managed with few exceptions (Adler et al., 1999, Andriopoulos and Lewis, 2009, Ingram et al., 2008).

**Table 2.3. Organizational ambidexterity in the literature**

<b>Authors</b>	<b>Ambidexterity Definition</b>	<b>Proposition</b>
Tushman & O'Reilly, 1996	Ambidextrous organizations are those able to implement both evolutionary and revolutionary change.	Small, autonomous units with different structure, processes and culture
O'Reilly & Tushman. 2004	Ambidextrous organizations are those that manage both exploration and exploitation activities, incremental and radical innovation	Structural ambidexterity: structural separation of explorative and exploitative business units and tightly integrated TMT
Gibson & Birkinshaw, 2004	Contextual ambidexterity is the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit	Contextual ambidexterity: creating a high performance organizational context so that individuals can choose how to divide their time between adaptability and alignment
He & Wong, 2004	Ambidexterity as the simultaneous pursuit of exploration and exploitation innovation strategies (respectively technological innovation activities aimed at entering new product-market domains, as well as aimed at improving existing product-market positions)	Empirical evidence of the positive effect of ambidexterity in the context of technological innovation. Need for managers to manage the tension between exploration and exploitation on a continuous basis
Cao, et al. 2009	Firm's innovation orientation, with regard to the introduction of new products/markets (exploration) and/or the improvement of existing products/markets (exploitation).	Firms that are relatively resource constrained due to their small size or scarce operating environments benefit the most from achieving a close balance of exploration and exploitation
Rothaermel & Alexandre, 2009	Firm's ability to simultaneously balance different activities in a trade-off situation	Ambidexterity as a firm-level dynamic capability. Enhanced firm performance requires a balance between internal and external technology sourcing of known and new technology
O'Reilly, Harrel & Tushman, 2009	Organizational ambidexterity as the dynamic capability of an organization to simultaneously explore and exploit, accounts for its ability to adapt	Adaptation at the organizational level is a function of the variation selection- retention process occurring across business units—and the ability of senior management to regulate this process in a way that maintains the ecological fitness of the organization with its environment.

Looy, Martens & Debackere, 2005	Ambidexterity as simultaneous presence of different activities of incremental and radical innovation coinciding with differences in technology and market maturation	Extended time frames, interface management practices for cross-fertilization, synergies of technologies (existing or potential)
O'Reilly & LTushman, 2008	Capability embodied in senior leadership's learning and expressed through their ability to reconfigure existing organizational assets and competencies in a repeatable way to adapt to changing conditions	Ambidexterity as a dynamic capability based on structural separation and senior leadership team with cognitive and behavioral flexibility. Conditions for ambidexterity: high organizational leverage and high strategic importance
Carmeli & Halevi, 2009	Ambidextrous organizations are ones that are capable of exploiting existing competencies as well as exploring new opportunities with equal dexterity, simultaneously	Contextual ambidexterity as critical moderating condition for organizational ambidexterity. Role of TMTs in enabling and creating organizational ambidexterity through behavioral integration and behavioral complexity
Jansen et al. 2009	Organizational ambidexterity as a dynamic capability. Refers to the routines and processes by which ambidextrous organizations mobilize, coordinate, and integrate dispersed contradictory efforts, and allocate, reallocate, combine, and recombine resources and assets across differentiated exploratory and exploitative units	Organizational ambidexterity as an organizational-level dynamic capability Structural differentiation and integration mechanisms (senior team social integration/ cross-functional interfaces) play a crucial role in a firm's ability to pursue exploratory and exploitative innovation concurrently (p.797).
Andriopoulos & Lewis, 2009	Ambidextrous firms are capable of simultaneous, yet contradictory, knowledge management processes associated with incremental and radical innovation (exploiting current competencies and exploring new domains with equal dexterity)	Ambidexterity as the management of innovation tensions. Exploration/exploitation viewed as paradoxes, complementary polarities
Smith & Tushman , 2005	Ambidextrous organizations build internally inconsistent architectures and cultures into business units so that the firm can both explore and exploit (p.524)	Structural differentiation, TMT team as the point of integration. Balancing contradictions that stem from the tension between short-term efficiency (exploiting) and long term innovation (exploring) rooted in senior team cognitions.



Nemanich & Vera, 2009	Ambidexterity is defined as the simultaneous pursuit of both radical and incremental learning (the ability to explore new capabilities while exploiting existing ones)	Transformational leadership behaviors and the values of a learning culture promote ambidexterity in a context of change.
Mom et al, 2007	Ambidexterity as the ability to both explore new possibilities in order to cope with future changes in the business environment and to exploit old certainties to meet today's business demands	Top-down knowledge inflows positively relate to exploitation activities, bottom-up and horizontal knowledge inflows positively relate to exploration activities
Mom et al, 2009	Ambidexterity as the behavioral orientation toward combining exploration and exploitation related activities within a certain period of time	Ambidextrous managers host contradictions, are multitaskers, both refine and renew their knowledge, skills, and expertise. Managers' exploration and exploitation activities are not mutually exclusive ends of a continuum but managers differ in the extent to which they are ambidextrous
Lubatkin et al, 2006	Ambidexterity as the ability to jointly exploit existing competencies and explore new ones. These two facets of organizational learning are considered inseparable.	TMT's level of behavioral integration directly influences how its members deal with the contradictory knowledge processes of an exploitative and exploratory orientation, such that greater integration enhances the likelihood of jointly pursuing both. Ambidexterity thus can be pursued within the same business unit.
Markides & Oyon, 2010	An ambidextrous organization is the organization that's capable of competing with dual business models in the same industry	Find company-specific answers and right organizational environment (culture, structures, incentives and people) that enable the corporation to separate the unit, exploit potential synergies and promote ambidextrous behavior.
Judge & Blocker, 2008	Strategic ambidexterity as the ability to simultaneously explore new market opportunities while efficiently exploiting existing markets	Key means by which an organization becomes strategically ambidextrous is by cultivating organizational capacity for change
Adler, Goldoftas & Levine, 1999	Ambidextrous organizations are those who shift the trade-off of efficiency and flexibility	Case study of Toyota production system. Efficiency and flexibility was possible due to effective use of 4 organizational mechanisms that help shift the trade-off (metaroutines, job enrichment, switching, partitioning). Training and trust as critical contextual factors determining the effectiveness of these mechanisms' implementation

#### **2.4.2.Exploration/ exploitation tensions: contradictory or complementary?**

Based on March's (1991) definition of exploration and exploitation as distinct and opposing learning processes, research on ambidexterity has viewed exploration and exploitation as two ends of the same continuum, competing for scarce resources and realized through opposing organizational capabilities. In this context ambidexterity is conceptualized as managing the tensions and conflicts that arise from these activities to find the appropriate balance between the two. Spatial separation was therefore proposed as an adequate organizational design for managing in essence two "monodextrous units" (i.e. units that were focused either on exploration or on exploitation) (Güttel and Konlechner, 2009).

However, additional research on exploration/exploitation tensions questioned the inherent contradiction between exploration and exploitation suggesting that both activities can be treated either as two ends of a continuum or as orthogonal to each other depending on the focus on a single or multiple levels of analysis (Gupta et al., 2006). In this context exploration and exploitation can be viewed as independent processes, where organizations can maintain a high level of both activities and no pursuit of balance between the two is needed (Gupta et al., 2006, Lubatkin et al., 2006). Cao et al. (2009) explore this fundamental conceptual difference when they discuss about the balanced and the combined dimension of ambidexterity. According to the balanced view, exploration and exploitation are viewed as two ends of the same continuum, inherently contradictory, in a tradeoff situation. On the other hand, the combined dimension of ambidexterity which argues against the inherent tension between exploration and exploitation, views them as independent, orthogonal to each other so that organizations can pursue a high level of both and no balance needs to be achieved.

In this context, the authors underline the positive effects of exploitation on exploration as a “high degree of exploitative effort can often improve a firm’s effectiveness in exploring new knowledge and in developing resources that support new products and markets” (Cao et al. 2009: 784). Lavie et al. (2010) also highlight this positive relationship between exploration and exploitation in terms of knowledge application where the newly acquired knowledge (exploration) soon becomes exploited (exploitation) as the organization integrates it to its main operations. This conceptual ambiguity regarding the relationship between exploration/ exploitation tensions raises some interesting questions on whether there is a necessary conflict within these two processes and under which circumstances. As Gupta et al. note ‘although near consensus exists on the need for balance [of exploitation and exploration], there is considerably less clarity on how this balance can be achieved’ (2006:697).

Simsek et al. (2009) argue that a temporal dimension that distinguishes between temporal separation and simultaneity “captures the distinction between organizational capabilities needed to support the simultaneous pursuit of exploitation and exploration and those required to implement switching between exploitation and exploration at different points in time in a sequential pursuit” (p. 867). However, a simultaneous or a sequential approach to ambidexterity refers more to the coping mechanisms of ambidexterity tension than explores *why* each approach is considered more necessary and under which circumstances.

Overall it is worth noting that whereas the simultaneous pursuit of both exploration and exploitation activities has been widely recognized as key to sustainable competitive advantage current research on ambidexterity has offered partial approaches on how this challenge can be met, focusing on either the

organizational or the individual level. We argue however that theories about how organizations can achieve ambidexterity are very much dependent on the level of analysis and most importantly on whether these two tasks are considered competing or complementary aspects of the organizational phenomena in question (Popadiuk, 2012).

In an effort to provide a more encompassing view of ambidexterity tensions the following part brings to the forefront the literature on paradox as a lens to study seemingly contradictory demands not necessarily as an either/or choice but as potentially complementary entities. Paradox theory offers some ways of dealing with contradictory yet interrelated elements that exist simultaneously and persist overtime (Lewis, 2000). The various mechanisms for managing tensions, as these are presented in the paradox theory, provide some useful insights on how tensions of ambidexterity can be conceptualized and managed. In that context, literature on paradox not only helps understanding the complexity of organizational life by overcoming simplified polarizations, but also provides a lens for theory building which shifts from the traditional approach of hypothesis testing to exploring tensions and contradictions (Benson, 1977, Bobko, 1985, Poole and van de Ven, 1989).

## **2.5. Paradox management as a way of dealing with organizational tensions**

Paradox, literally a contention or group of contentions that is beyond belief, in the sense of being counter to ordinary expectations (Rescher, 2001) is defined within organizational theory as “contradictory yet interrelated elements that seem logical in isolation but absurd and irrational when appearing simultaneously” (Lewis, 2000:760).

Paradox was introduced as a framework to deal with the inherent complexity of organizational life by Cameron and Quinn (1988) and has received increased attention in the organizational theory literature as organizations become more complex, dynamic and pluralistic (Bouchikhi, 1998, Clegg et al., 2002, Poole and van de Ven, 1989). Bouchikhi (1998) argues for a constructivist view of organizations that are based on paradoxes of autonomy and control, collective action and individual interests, continuity and change, closed and open systems, deliberate and emergent management. In this context organizations are defined as “social spaces continuously torn by members in multiple and contradictory directions” where managers should continuously strive for balancing these contradictory forces (Bouchikhi, 1998: 224).

Further research on organizational paradoxes has covered the tensions of continuity and change in the face of radical change (Huy, 2002), contradictions of collaboration and control in cases of corporate governance (Sundaramurthy and Lewis, 2003) and tensions of committing to multiple strategic goals (Sillince et al., 2012).

Paradox theory is based on the simultaneous and persistence presence of dualities: dualities differ from theories on dualism, which support either/ or approaches as they build upon the interrelated relationship between seemingly opposing poles. Graetz and Smith (2009) explain the role of dualities, or dual forms of organizing, as organizational designs which bring together the advantages of seemingly contradictory poles such as continuity and change, short term and long term focus or internal and external orientation. As a result, a dualities aware perspective does not favor one part of the opposing pole over

another but recognizes their synergistic, dynamic relationship (Graetz and Smith, 2008, Smith and Graetz, 2006, Smith and Lewis, 2011, Eisenhardt, 2000).

In an exploration of the paradox of stability and change Farjoun (2010) argues for the uncoupling of mechanisms and outcomes as a way to see the enabling perspective of both poles. According to the author “the apparent paradox of stability and change arises because the concepts are usually defined as opposites and by implication separate” (2010:202). Adopting a more dynamic conceptualization of stability Farjoun connotes stability with continuity and low variance but instead of implying fixity or rigidity it manifests adaptation. In that context, the author provides evidence on how variable practices can contribute to stability in outcomes and stable practices can enable variable outcomes.

However, attempting to manage dualities is a difficult task for organizational actors as it contradicts the logical tendency to reduce ambiguity (Lewis, 2000, Seo et al., 2004) and requires more complex organizational responses.

### **2.5.1. Different approaches to managing paradoxical tensions**

Apart from a framework for understanding the complexity of organizational life, paradox literature offers interesting approaches on how paradoxical tensions can be managed. The following section presents the main approaches for managing paradoxical tensions, based on the whether these approaches are focused on the constituents of a paradox, the relationship between these constituents or the root causes that lead to the emergence of paradoxical tensions.

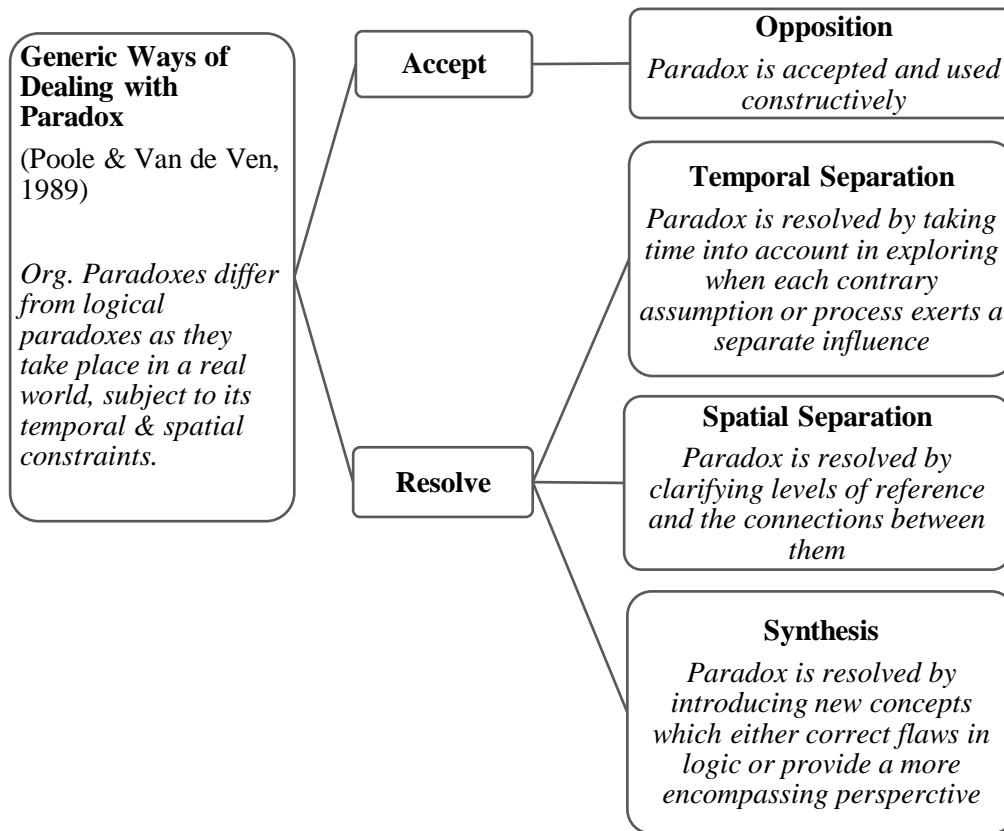
- a. Focus on the constituents/ poles of a paradox (Poole and van de Ven, 1989)

- b. Focus on the relationship between the constituents/poles of a paradox (Clegg et al., 2002, Ford and Ford, 1994, Ford and Backoff, 1988)
- c. Focus on the root causes of paradox (Lewis 2000)

These approaches, each focusing on a different level of analysis can not only offer new perspectives for addressing the tensions arising from the simultaneous pursuit of exploration and exploitation but can also contribute to a richer conceptualization of organizational ambidexterity.

*Focus on the constituents/ poles of a paradox.* Based on the distinction between a logical and a social paradox that is present in organizational theory, Poole and Van de Ven (1989) proposed four generic approaches to dealing with paradox, presented in Figure 2.3. Whereas logical paradoxes are timeless, social paradoxes refer to a specific time and place, which offers the possibility of using spatial or temporal separation as a way of managing them. These approaches (opposition, spatial separation, temporal separation and synthesis) take paradoxes as a given and propose ways of managing the arising tensions without examining how these might be interconnected. Similarly in the organizational ambidexterity literature tensions of exploration and exploitation are mainly approached through spatial or temporal separation.

**Figure 2.1. Generic ways of dealing with paradox (Poole & Van de Ven, 1989)**



***Focus on the relationship between the constituents /poles of a paradox.***

Focusing on the relationship between the poles of a duality Ford and Backoff (1988) propose three alternative ways of dealing with organizational paradoxes: formal logic, dialectics and trialectics. Formal logic is based on viewing paradoxes as static dualities characterized by oppositional tendencies. Following the formal logic perspective, the paradox is resolved either by choosing between the constitutive poles (either/or choice) or by achieving a ‘compromise’ between the two, which however as the authors argue “is only superficially so because it does not allow for an outcome that encompasses both poles in their entirety” (p. 95). On the contrary, dialectics views paradoxes as dualities whose oppositional poles are in a dynamic and interrelated relationship, ending in a both/and approach



where the paradox is ultimately resolved through the transformation of the tensions into a new synthesis. Lastly, trialectics argues that there are no real oppositions between the constituent poles of a duality; only apparent ones, that is, opposition is a constructed reality. Instead of opposing forces pushing into different directions, trialectics argues for the complementary relationship of dualities, much like the polar opposites of an electrical circuit. In this case paradox is resolved through the ‘jump’ to a higher or lower level of equilibrium caused by a reframing or reconstruction of the distinctions that create the apparent opposites, thus through social interaction and conflict.

Among these options available for resolving paradox, formal logic implies that organizations should avoid or eliminate paradox by selecting one of two opposites within a duality or by compromising both dualities. Dialectics and trialectics encourage organizations to embrace paradox as a source of productive energy that is central to organizational change and development. According to the authors, each perspective has utility depending upon the nature of the paradox. Following this line of argument, Bledow et al. (2009) discuss the difference between a dichotomous and a dialectic approach to managing paradoxes of innovation; the former based on separation and the later on integration and synthesis.

Further conceptualizations of paradox that explore the dynamic relationship between its constituent poles is presented by Clegg et al. (2002) who argue for a relational approach to the management of organizational paradoxes such as the need for simultaneous presence of autonomy and control. The authors criticize Poole and Van de Ven’s (1989) spatial and temporal approaches to managing paradoxes arguing that in the cases of placing the paradoxes in different

time or place in an organization, their potential relationship is limited to a single direction often causal or hierarchical. Also, the approach of solving the paradox runs the risk of offering simplistic results by eliminating the creative potential of tensions, whereas the balancing approach presupposes the possibility of “a mix of extremes” (p.487). Thus, instead of trying to eliminate or solve paradoxes the authors propose keeping the paradoxes open and examining the relationship between their constituent poles. This relationship emerges through everyday practice, is context specific and can often lead to a synthesis in cases where the opposite poles are mutually reinforcing. The example of improvisation is used as a synthesis of planning and emergent acting that brings the poles closer together but doesn't replace them.

In a similar vein, Beech et al. (2004) explore the approach of holding the paradox open in a study of an organization undergoing radical change. In their approach they use the theory of serious playfulness as means to action that can facilitate actors to dismantle paradoxes through expressing emotions, exploiting ambiguity, challenging rules and experimenting with boundaries. Through this process the actors involved in the action research transcended the paradox created by the demands of organizational change that called for both centralized and decentralized services in the NHS, only to discover that new paradoxes emerged; pointing to paradox as an inherent feature of organizational life. Bloodgood and Bongsug (2010) further proposed a dynamic view of balance through which organizations dynamically shift between paradoxical poles over time. This approach to managing paradoxes also follows a sequential approach to pursuing contradictory demands according to organizational and contextual demands.

*Focus on the root causes of paradox.* The paradox framework proposed by Lewis (2000) takes one step back in identifying the root causes of paradox: its underlying tensions and how these are reinforced by actors' defensive reactions. In that context Lewis proposes a focus on how paradoxes arise, as a way of dealing with them. Lewis notes that within the field of organizational studies three main paradoxes emerge: paradoxes of learning (based on the tensions created between the old and the new), organizing (based on the opposing forces for control and flexibility) and belonging (stemming from the tension between the self and the other within an organizational context).

In this context working through paradox, is based on immersion and exploration of paradox rather than suppressing its underlying tensions and requires actors to actively learn to cope with tensions and ambiguity.

As for identifying organizational paradoxes, Lewis proposes three ways: the narrative through the analysis of discourse, the psychodynamic which involves working with actors to help both actors and researchers to recognize conflicts, and the multiparadigm approach. Following the narrative way of identifying paradoxes Luscher et al. (2006) applied discourse analysis as a lens to analyze how actors conceive and try to make sense of paradoxes in changing organizations. The authors present the results of action research in the Danish LEGO company, which was undergoing significant restructuring. Three types of organizational paradoxes (performing, belonging, and organizing) were analyzed in relation to their communicative practices (which they identified as mixed messages, recursive cycles and system contradiction). In their research the authors argue for working through paradox by finding the linkages between the opposing poles transforming the paradox to a more workable entity. In a similar note, Gilson et al.

(2005) examined the paradox of creativity and standardization in a retail organization to find that embedding creativity into constructing standardized processes was the organization's approach to working through the paradox. Chahrazad et al. (2011), however, note that discourses of transcendence only lead to temporal solutions of paradoxes as new contradictions soon emerge.

Overall, the different approaches for managing paradoxical provide some fruitful ground for the exploration of ambidexterity tensions, as not necessarily contradictory elements that should be structurally separated but as dynamic polarities, whose constituents are in continuous flux.

## **2.6. Conclusion**

The review of the literature on ambidexterity to date provides some interesting insights relating to how ambidexterity is conceptualized and approached and some important opportunities for further research. More specifically, approaches to resolving the tensions of ambidexterity vary from structural separation (Tushman and O'Reilly, 1996), to integration within the same unit (contextual approach) (Birkinshaw & Gibson, 2004). Tactics of differentiation (Jansen et al., 2009), integration (Smith and Tushman, 2005) or alignment and adaptability (Gibson and Birkinshaw, 2004), have been proposed, however dominant single level approaches to the study of ambidexterity do not examine whether these mechanisms can co-exist within a single organizational context (Chandrasekaran, et al., 2012).

The table below categorizes the different approaches to organizational ambidexterity by type (integration/ separation) and level of analysis (organizational/ individual).

**Table 2.4. Conceptual approaches to organizational ambidexterity**

	<b>Separation</b>	<b>Integration</b>
<b>Organizational level</b>	Structural ambidexterity (Tushman, & O'Reilly, 1996) Temporal balancing (Jansen, 2005)	Contextual ambidexterity (Gibson & Birkinshaw, 2004)
<b>Individual level</b>	Temporal balancing, switching between tasks (Adler et al., 1999)	Cognitive ambidexterity (Smith & Tushman, 2005) Single, sophisticated solutions (Eisenhardt, 2010)

These single level approaches have consequently led to a rather static view of managing tensions, assuming a single mode of balance (either integration or separation) for the entire organization. Studies like the multi-level approach to ambidexterity of Andriopoulos and Lewis (2009) are providing with promising evidence that tensions of ambidexterity are not isolated within a single organizational level, and that a mix of integration and separation strategies are pursued to manage tensions of innovation. However, there is lack of further research that could contribute further in terms of how ambidexterity is achieved at a more micro-level. There is also lack of longitudinal empirical evidence on whether any of these approaches to ambidexterity are sufficient or remain unchanged throughout a longer time frame.

Additionally, different approaches to ambidexterity are based on some fundamental assumptions regarding the nature of the relationship between exploration and exploitation: inherent contradiction in cases of separation and possibility for complementarities or synergies in the cases of integration. Based on March's conceptualization of exploration and exploitation as two fundamentally different learning activities, research on ambidexterity has mainly followed the assumption of inherent conflict, evident in the multiple approaches to

ambidexterity based on separation (structural or temporal). Further research on exploration and exploitation tensions, however, has questioned this inherent contradiction, based on the argument that whether these two are considered contradictory or orthogonal processes is related to having a single or a multiple levels of analysis (Ying et al., 2008, Gupta et al., 2006).

Theory about how organizations can achieve ambidexterity, however, is argued to be dependent on the level of analysis and most importantly whether these two tasks are considered competing or complementary aspects of the organizational phenomena in question. Based on the argument that the different approaches to ambidexterity follow different assumptions on the nature of the relationship between exploration and exploitation, the literature on paradox has been presented as a lens to explore the different manifestations of a paradoxical tension as well as a variety of management approaches. The literature on paradox has recently been proposed by ambidexterity scholars as a useful lens for understanding the complexity of organizational life by overcoming simplified polarizations (Martini et al., 2013, Ingram et al., 2008, Andriopoulos and Lewis, 2010, Andriopoulos and Lewis, 2009). Also, literature on paradox provides with further insights on how different paradoxical tensions might co-exist and interact within single organizational contexts overtime (Smith and Lewis, 2011).

In that context the aim of this research is twofold: Explore how organizational actors in different organizational levels perceive and manage tensions of ambidexterity and how the organizational context influences the management of these tensions. Following a dual-level approach to the study of ambidexterity allows for a more robust and refined understanding of how tensions of exploration and exploitation are manifested and managed at different

organizational levels. By focusing on these two key areas this study aims to contribute to the literature of ambidexterity by providing empirical evidence on how tensions are perceived and managed within different levels and how different ambidexterity antecedents might interact or complement each other (Raisch et al., 2009).

## CHAPTER 3. METHODOLOGY

In this chapter I describe the methodological approach that guided my research. The chapter begins with a brief description of the philosophical commitments underpinning my methodology followed by the research method that was applied. Lastly a step-by-step discussion of the analysis process is presented.

### 3.1. Philosophical commitments

This research is guided by the interpretive paradigm in social science, whereby the researcher aims to understand actors' first order perspectives, what Weber refers to as *verstehen* (Weber, 1964). This aim of an in-depth understanding of meaning contrasts with the pursuit of general, causal laws and regularities that characterize the positivist tradition. Interpretivism reflects the need for a research approach that recognizes the fundamental difference between social and natural sciences, namely the fact that the subject of enquiry in social sciences is people and their institutions (Bryman and Bell, 2007). Since the world is seen as constituted through conscious subjects, the foundational commitments of interpretivism stand opposite the positivist view of the world as a stable, knowable and objective entity. In this vein, the ontological and epistemological assumptions of interpretivism are influenced by the phenomenological premise that knowledge is constituted through actors' lived experience of reality, which forms the basis for action (Heracleous, 2004, Sandberg and Tsoukas, 2011).

More specifically, apart from Weber's influential work, the interpretive tradition in organizational studies draws from phenomenological sociologists such as Berger and Luckmann (1966), Giddens (1984) and Bourdieu (1998), who amongst others criticized the existence of a scientific ideal of attaining objective



and valid knowledge about the world through detached observation and analysis (what Bourdieu called “the scholastic attitude” [1998: 127–140]). This pursuit of scientific rationality was criticized on the basis that it underestimated the totality within which organizational actors were immersed, ignored the situational uniqueness of actors’ actions and disregarded the element of experienced time (Sandberg and Tsoukas, 2011).

Following the interpretive tradition the positivist dualist ontology that argues for the distinction between subject and objects is replaced by a view of subject and object as constituting an inseparable entity. As subjects, our view of reality is mediated through our lived experience of this reality and also through our specific social, cultural and historical context (Berger and Luckmann, 1966, Sandberg, 2005). Contrary, therefore, to the positivist disconnect of knowledge from its social context Bourdieu (1998) argued that:

*“My entire scientific enterprise is indeed based on the belief that the deepest logic of the social world can be grasped only if one plunges into the particularity of an empirical reality, historically located and dated (...)”* (Bourdieu, 1998: 2).

Rejecting the idea of objective truth while at the same time aspiring to produce credible contribution to knowledge places some challenges for researchers within the interpretive tradition. Accepting a constructionist epistemology and a realist ontology has been proposed as a way to overcome methodological challenges (Maxwell, 1992) however criteria of validity proposed by the author fail to demonstrate how they represent an objective reality (Sandberg, 2005). However an alternative approach, argued by Lyotard (1991), proposes that truth can only be defined as “lived experience of truth” (p:61).

Within this context my research draws upon the interpretive (Sandberg, 2005, Elharidy et al., 2008) tradition that argues that a social action cannot be understood unless the meaning that social actors themselves ascribe to this specific action is understood. This approach to research which aims at understanding the complex world of lived experience from the point of view of those who live it, is based on a close collaboration between the researcher and the actors (Baxter and Jack, 2008). As participants share their view of their lived experiences the researcher is able to better understand participant's actions. Following such an approach a researcher is able to explore the logic of practice (Bourdieu, 1998) namely how organizational practices are constituted and enacted by actors. Apart from its methodological value, this approach is also considered a critical step towards bridging the gap between theory and practice (Sandberg and Tsoukas, 2011).

Within the ambidexterity research such an interpretivist stance stands opposite the prevailing rationalist approaches, which are largely treating ambidexterity as consisting of two distinct elements: a set of attributes possessed by individuals (Gibson and Birkinshaw, 2004, O'Reilly III and Tushman, 2011, Tushman et al., 2011) and a separate set of organizational structures and processes (Berghman, 2012, Boumgarden et al., 2012, Devins and Kähr, 2010, Kauppila, 2010, Tushman and O'Reilly III, 1996). A shift from the view of organizational actors and the pursuit of ambidexterity as two separate entities to the exploration of ambidexterity through actor's experiences of tensions is offering an alternative way of understanding how ambidexterity can be achieved in practice. Similarly Sandberg (2010) argued for an interpretive approach to the study of competence at work through exploring the meaning of work, as this is perceived by

organizational actors. Following an interpretive standpoint of organizational actors' lived experiences of ambidexterity tensions, this research adopts a holistic approach to ambidexterity that explores the interconnections between actors, actions and context.

### **3.2. Research method**

In order to explore how actors perceive and manage exploration and exploitation tensions within an ambidextrous context, this study is based on a case study methodology. This is considered a suitable research methodology for this type of inquiry as it not only enables a situation to be described and explained but also allows a theory to be developed and constructed. Through the means of the case study the holistic and meaningful features of real life events are maintained as the phenomenon under investigation is situated in and informed by a specific real life context (Yin, 1984). Such study of a particular phenomenon in context offers depth and richness to the empirical data drawn as it considers the perspectives of the social actors following the key principles of interpretivism (Hamel et al., 1993) and is increasingly considered a relevant method in the field of strategy and management (Ridder et al.). In depth reflexive data that reflect the complexity and plurality of organizational contexts is considered one of the key advantages of the case study method (Yin, 2003). Bamford (2008) also adds to the advantages of case study research the opportunity to develop grounded theories that are both practical and relevant and the ability to draw insights from rich and longitudinal data to identify holistic patterns in real world settings (Bamford, 2008).

In the context of ambidexterity research where scholars argue for the need to explore more the contextual dimensions shaped in specific organizational

settings and interactions (Hotho and Champion, 2010), the case study is considered a suitable method to explore how tensions of ambidexterity are manifested at different organizational levels. Indeed, one of the strongest elements of case study research is the ability of the researcher to explore complex phenomena and behaviors based on rich descriptions of empirically grounded data (Ridder et al., 2009). This research then serves the purpose of exploring both how organizational actors perceive and manage tensions of ambidexterity and how the organizational context influences the management of these tensions.

**Research Context.** As a research strategy case study allows for a deep understanding of dynamics present in single settings (Eisenhardt, 1989) and can involve single or multiple cases and different levels of analysis (Yin, 2009). Following a case study approach two organizations were selected for this research. The organizational contexts that formed the basis of the case studies followed the approach of theoretical sampling which is more likely to provide theoretically relevant results and extend emerging theory (Yin, 2009). This selection process has also been termed ‘transparent’ in the sense that it makes the subject of enquiry ‘easily visible’ (Eisenhardt, 1989). In order to explore and extend the emerging the concept of organizational ambidexterity, the case organizations were chosen on the basis that they were faced with the challenges of the simultaneous pursuit of exploration and exploitation activities at the individual level, following a replication sampling logic (Yin, 2009). These empirical settings provided a fruitful context to explore the meanings associated by actors and their related practices in the pursuit of ambidexterity as well as the organizational factors associated with the pursuit of ambidexterity. Both case organizations were undergoing profound organizational changes in their pursuit of ambidexterity,

making them suitable contexts for exploring the challenges of pursuing an ambidextrous strategy within a context of change.

Telco, a large Scandinavian based Telecommunications company, needed not only to sustain high level of products and services but also explore new windows of opportunity balancing both forces of innovation and efficiency (Chandrasekaran et al., 2012). In order to meet this dual demand the organization had undergone a restructuring and was by the time of the research in the midst of change. A key tenet of this organization change was a shift towards making innovation a priority within the whole organization. The School, a higher education institution, was also in the midst of change in order to explore new opportunities for growth through research excellence while also maintaining a high level of operational efficiency.

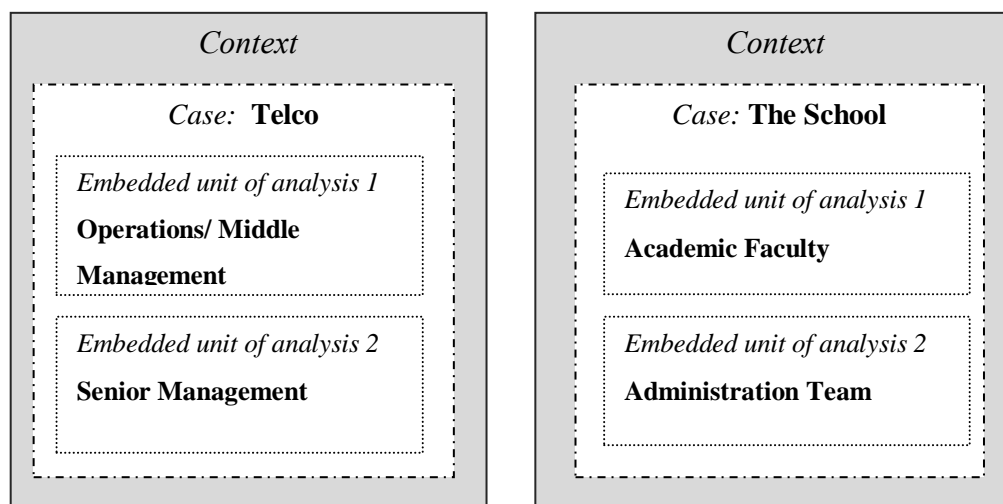
The table below summarizes the criteria for selecting both organizations following a replication logic (Yin, 2009).

**Table 3.1. Criteria for selecting case studies following replication logic**

<ul style="list-style-type: none"> <li>• Both organizations operate in highly competitive environments and are undergoing organizational change in the pursuit of ambidexterity</li> </ul>
<ul style="list-style-type: none"> <li>• In these knowledge intensive environments the individuals of both organizations face intense pressures to achieve ambidexterity, as both organizations have introduced a series of changes whereby newness, innovation and exploration are paired with efficiency, and process improvements to enhance exploitation</li> </ul>
<ul style="list-style-type: none"> <li>• Both organizational change efforts have taken place prior to as well as during the study, making both settings a very fruitful context to explore how tensions of ambidexterity are perceived and managed at the individual level but also the organizational factors that influence these practices</li> </ul>

**Research Design.** In order to explore how tensions of exploration (linked with innovation) and exploitation (linked with efficiency) were manifested and managed at different levels within single settings I adopted a *multiple embedded case methodology* as described by Yin (2009). This approach offers not just the ground for data collection across different levels of the organization but also the opportunity for more refined analysis within and across organizational levels (Herriot & Firestone, 1983). In that context theory development is based on consistent patterns within cases using a replication logic in which each case serves as confirming or disconfirming of the emergent theory (Martin, 2011, Eisenhardt, 1989, Yin, 2009). Although more complex, the multiple embedded case methodology is considered to lead to more to more compelling, parsimonious and robust evidence than single case studies (Eisenhardt and Graebner, 2007, Martin, 2011, Yin, 2009). In that context each organization consisted of two embedded cases: a) Operations/ Middle management and b) Senior Management in the case of Telco and a) Academic faculty and b) Administration Team in the case of The School (see Figure 3.1. below).

**Figure 3.1. Research Design: The multiple embedded case methodology.**



Source: Table adopted from Yin (2009)

The embedded cases represented different organizational levels with distinct roles and responsibilities, offering a holistic perspective of how tensions of ambidexterity were perceived and managed in different parts of the same organization. The theory of method that guided this research follows the argument of Pettigrew (1990) on the pivotal role of contextualization in his study of organizational change. In particular two main elements of Pettigrew's contextualist approach to research seem relevant in the context of my study: a) the importance of "embeddedness", namely placing the subject of enquiry in the context of interconnected levels of analysis and b) the relationship between context and action, namely how the organizational context can inform action (Pettigrew, 1990). This research follows methodologically this sensitivity to context both in terms of data collection and in terms of data analysis.

More specifically, a longitudinal, multiple case methodology within organizational contexts that aim to manage the tensions of exploration and exploitation, potentially offers rich insights to exploration and exploitation tensions, in particular how these tensions are manifested at multiple levels of analysis and which modes of balance are pursued in each case. In this context, this research is based on a shift from the more static notion of balance -as a normative assumption which prevails in the literature so far- to the process of balancing manifested in the efforts of individuals and organizations to achieve and sustain ambidexterity over time.

### **3.2.1. Data Collection**

Following a longitudinal approach, empirical research was conducted in two phases, spanning a period of 22 months (November 2010- September 2012). This approach allowed for an in depth investigation on how organizational

changes evolve over time in pursuit of ambidexterity and how tensions of ambidexterity are manifested and managed overtime. This dynamic, iterative process of data collection and analysis gives the opportunity to reflect on the data as they emerge and re-focus, or refine the definitions of the constructs in accordance to the emerging context (Eisenhardt, 1989). Phase A took place from November 2010 to July 2011 and phase B from September 2011 to September 2012 (see Table 3.2 for an analytical breakdown of data collection per phase).

*Interviews.* In both organizations I conducted a total of 60 semi-structured interviews with employees from two organizational levels (30 in depth interviews in each organization). 56 interviews were recorded and transcribed verbatim and 4 interviews were not after the request of the interviewees. In those 4 interviews, notes were taken during the interview as well as extensive notes after the completion of the interviews, both of which were used in the analysis.

The range of respondents provided the opportunity to explore which tensions arise within each level and whether there are differences regarding actor's interpretations and coping mechanisms across levels. In Telco I held interviews with employees from the operations/ middle management and the senior management level; both at UK local offices (Coventry, Reading, and Guildford) as well as in the company's headquarters in Stockholm, Sweden. Participants were responsible for key areas of the Global Services segment of the organization (operations, strategy, communications, new business development), Telco's largest business unit accounting for more than 40% of total net sales (Telco Annual Report, 2012). In The School I conducted interviews with members of the academic faculty, the administration and the Dean.



In both organizations, I employed a “snowball” technique where each interviewee proposed other members of the organization who could offer further insights. However this technique was not based on random selection as interviewees’ suggestions’ followed the context of the research. Interviews lasted for an average of 60 minutes and the discussion was based on an interview structure, which addressed key themes of the research. The interviews were semi-structured with open- ending questions, allowing the interviewees to expand on the issues that they perceived as important relating to the organization’s pursuit of innovation and efficiency. The aim of the interviews was to move from the *organizational level* (for example, how does the organization deal with the simultaneous pursuit of innovation and efficiency) to the *individual level*, namely how the individual respondent perceives and manages ambidexterity within his/her everyday activities and how the organizational environment influences this behavior (See Appendix for an overview of the interview structure). Questions begun with a focus on the philosophy of the organizational change the organizations were facing and the company strategy, and moved to more specific issues of the definition and role of innovation, how individuals dealt with simultaneous demands for efficiency and innovation. These questions were elaborated and substantiated as interviewees were prompted to provide with examples of their personal experience of dealing with both demands.. Also interviewees were asked to describe the role of the organizational context (processes, structure, culture, incentives<sup>9</sup>) in meeting both goals of innovation and efficiency. Questions during the first phase of interviews were broader and open ended focusing on individual’s perceptions on the organizational changes and

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<sup>9</sup> These attributes stem from Markides & Oyon definition of organizational environment (Markides and Oyon, 2010)

tensions related to managing both innovation and efficiency demands. The interviewees were asked to describe the nature of the relationship between efficiency and innovation as they perceived it, without the interviewer probing with characterizations such as tension, paradox, contradiction, balancing or similar terms (Andriopoulos and Lewis, 2009). Having said that, the notions of balance and paradox have been a central recurring theme during discussions, and the different manifestations of the exploration/exploitation tension drew my attention to the alternative approaches to the management of these tensions. As respondents raised issues of different perceptions and coping mechanisms of ambidexterity, interviews in phase B were more focused and detailed aiming to elicit more information on the emergent themes from phase A (Baker et al., 2011).

*Observation.* Apart from the in depth interviews, non-participant observation and other material (both retrospective and synchronous to the data collection period) was part of the data (see the appendix for a more detailed view of data sources). Observation was a part of my research as it captures behavioral patterns, but also the subjective experiences of organizational reality by actors (Smets et al., 2012).

In the case of Telco, visits to the local offices as well as the Global Headquarters allowed for office observation and were a valuable source of insight in terms of Telco's working environment and culture. Furthermore non-participant observation included two key, all-day company events:

- a. An innovation forum that was conducted through teleconference within 16 countries of the Western and Central Europe region
- b. A graduate scheme final presentation day followed by a senior management meeting.

In both of the organizational events innovation was the key theme. The innovation forum was conducted periodically throughout the year within the countries of the same region in order to share best practices on innovation ideas and implementation. The graduate scheme presentations were also based on an innovative idea the graduates would propose for the future of Telco. In both cases I was able to identify first-hand the multiple applications and meanings associated to “innovation” throughout the organization and observe the challenges that this complexity brought to the organization.

In the case of The School, apart from the in depth interviews, participant observation and informal discussions were part of my empirical research. Non-participant observation included the School Assembly where key aspects of the school’s new strategy were presented to the members of academic faculty and administration. The presentations as well as the discussion that followed were an important source of insight in terms of how the new school strategy was communicated and perceived by the members of the school.

***Documents & Archival Data.*** During the empirical research phase I collected and analyzed publicly available archival data (covering both organizations’ history and strategy for the previous 10 years) and internal documents such as company reports and marketing material.

***Data Triangulation.*** Within the case study method, I used multiple methods of data collection to enable data triangulation that would lead to more valid insights (Voss et al., 2002). The multiple sources of data used in my research ensured that multiple facets of the organizational reality could be revealed (Baxter and Jack, 2008). Collecting data from multiple sources and different organizational levels is also argued to be critical in producing case studies that are

richer and more complex than mere case histories leading in more robust analytic themes (Pettigrew, 1990). Following a triangulated methodology aims at drawing from the different and particular strengths of data collection sources: the depth and richness of interviews, the representation of facts in documents and the opportunity to verify or disconfirm emergent themes and subtle meanings through observation (Pettigrew, 1990).

Extensive research notes were taken during the data collection, including identification of emerging themes, observations on informal meetings and off the record discussions. The use of field notes and memos was an integral part of the research as a tool for documenting thoughts from the data collection process as these emerged. Both tools contributed to a richer data set as they included observations that would not be documented in any other way during the data collection process. Field notes served as a reminder of critical incidents, steering the data collection process towards issues and themes that needed further research. The use of memos also helped me document emerging themes, serving as the first analytical steps during the period of data collection. Both the use of memos and field notes were an integral part of the iterative process between data collection and analysis (Parry, 1998).

The iterative process of data collection and analysis enabled reflection on the data and refinement of the data categories in accordance to the emerging context (Eisenhardt, 1989). As Pettigrew described: “data collection is concerned with observation and verification, and in longitudinal field studies these are iterative processes: One observes, follows themes and trails, identifies patterns, have those patterns disconfirmed or verified by further data, and the process moves on” (1990:106).

### 3.2.2. Data Analysis

*The analytical approach.* Whereas collecting a rich dataset is considered one of the strong elements of qualitative research, a very large body of data is quickly developed in the form of interview transcripts, field notes and documents (Bryman and Bell, 2007). Miles (1979) described qualitative data as an attractive nuisance based on the attractiveness of the richness of the data and the difficulty of finding analytical paths through this exact richness. Unlike the analysis of quantitative data, qualitative researchers have offered many different approaches of analysis (Bryman and Bell, 2007).

However when inductive theorizing is under consideration, the rules of grounded theory are mostly followed, either as a methodology (Elmes, Strong, & Volkoff, 2005; Jones & Noble, 2007), a set of coding techniques (Levina, 2005; Vaast & Levina, 2006), or a research method of data collection and analysis (Baker et al., 2011). With their approach of grounded theory Glaser and Strauss (1967) aimed not at generating truth statements about reality but rather gain understanding on patterned relationships among social actors and how these relationships and interactions in turn form the reality of social actors.

This approach was later further developed by Strauss (1987) and Corbin and Strauss (2008) who, based on the principles of grounded theory, developed a more structured approach for data analysis (O'Reilly et al., 2012). In line with Corbin and Strauss's definition of grounded theory as a set of techniques that guide the researcher in data collection and analysis, this research follows the stream of research that engages with the principles of grounded theory *as a method of analysis* (Hanson et al., 2011, Kiridena et al., 2009, Ranft and Lord, 2002, Galunic and Eisenhardt, 2001, Lee et al., 2000, Rindova and Kotha, 2001,

Bamford, 2008). Such a method of analysis is argued to enable researchers in generating innovative theories or explanations in a defined context (Pozzebon et al., 2011) and is commonly used in the context of case study research (Eisenhardt, 1989, Voss et al., 2002). The common elements between the case study methodology and grounded theory principles are mostly brought together in studies where real life events are explored over a period of time (Barrett and Sutrisna, 2009, Leonard and McAdam, 2001, Yin, 2009).

Following the principles of grounded theory which argued that new theory could be developed by paying careful attention to the contrast between “the daily realities (what is actually going on) of substantive areas” (Glaser & Strauss, 1967: 239) and the interpretations of those daily realities made by those who participate in them (the “actors”), analysis focused on the interpretive process by exploring how social actors in real settings construct meanings and concepts (Suddaby, 2006). In order to extend theory on organizational ambidexterity, this modified grounded theory approach to data analysis is based on the principle of constant comparison (Pratt and Rosa, 2003). This process is a central analytical principle enabling grounded theorizing emerging from the iterative process of data collection and analysis. Following such an approach contradicts the myth of a clean separation between data collection and analysis (Suddaby, 2006) as the researcher follows a constant process through which he/she gathers data, proceeds with the analysis, compares with past analyses and gathers more data in order to clarify emerging themes and possible relationships between different concepts and their properties (Parry, 1998).

Following this principle of constant comparison, data collection and analysis were intertwined: theoretical ideas emerged from the data collection,

were documented in field notes and memos that led to further research and data collection (See Figure 2 below). This iterative process of data collection and analysis through constant comparison and theoretical coding is considered complete when theoretical saturation is achieved (O'Reilly et al., 2012). This process of data collection and analysis is considered particularly relevant in research areas that focus on "processes or forces that give rise to an activity" (Hunt & Ropo, 1995, p. 381). The aim of that process is "the identification of the basic social process, the nature of which is the subject of the derived theory" and the generation of an explanatory theory (Parry 1998:90) This tendency toward processual analysis was therefore valuable for untangling the complex nature of dealing with organizational tensions (Parry, 1998).

In addition the use of a multiple embedded case methodology was regarded to be in agreement with the key principles of grounded theory on a methodological level: relying on multiple sources and constant comparison in which different case studies represent these 'cycles' while the point of saturation is achieved when the constant comparison within and among the case studies ceases to contribute new information (Barrett and Sutrisna, 2009). This way, the themes emerging from the data remained grounded in that data, ensuring fit (close applicability of the data to the categories) and relevance (Baker et al., 2011).

*The stages of analysis.* Qualitative analysis is a rigorous process that demands both the creative use of procedures to solve analytical problems and the ability to create a coherent, explanatory story that remains "grounded" to the data and contributes to theory (Corbin and Strauss, 2008). To respond to this challenging task the researcher is requested to "think outside the box" around complex theoretical problems and systematically analyze them in terms of their

attributes and dimensions; combining elements of both art and science (Corbin and Strauss, 2008). These elements although distinct are equally necessary in the process of analysis and demand a delicate balance; a form of disciplined imagination (Pozzebon et al., 2011).

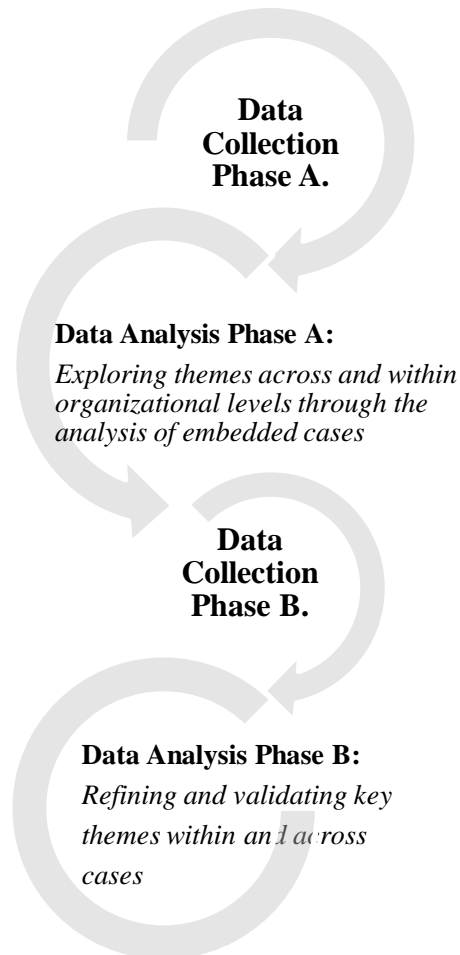
Following the principles of grounded theory, my analysis moved from a very detailed reading of the collected data to greater generality (Mantere et al., 2012). In that context, the analysis process involved cycles of zooming in and zooming out, moving from periods of increased complexity and detail to periods of simplification and abstract thinking. This process allowed me not only to analyze data in depth, identifying key concepts and analyzing in depth their properties and dimensions, but also move a step forward in identifying patterns across and within cases in terms of how individuals perceived and managed tensions of innovation and efficiency.

Pettigrew (1990) identified this cycle of complexity and abstraction as inherent in the qualitative analysis process that is based on both deduction and induction. Following the longitudinal nature of the study, analysis was conducted in two phases: the first phase of analysis (following the first phase of data collection) aimed at exploring all possible categories and themes across and within cases. The second phase of the data analysis (following the second phase of data collection) aimed at enriching and validating emergent themes and categories by comparing them with existing literature and key informants. This process of analysis (presented in detail below) allowed me to explore each case organization and its embedded cases in detail and therefore draw inferences both within and between cases (Baxter and Jack, 2008). In that context theory development is



based on consistent patterns within cases using a replication logic in which each case serves as confirming or disconfirming of the emergent theory (Yin, 2009).

**Figure 3.2. Iterative process of data collection and analysis**



Given the multiple embedded case methodology of this research I used within case and cross case analyses methods to analyze case data (Eisenhardt, 1989, Martin and Turner, 1986). In that process my basic analytical tool was that of theoretical coding. Corbin and Strauss (2008) described this coding technique as mining: “taking raw data and raising it to a conceptual level ... it involves interacting with data, using techniques such as asking questions about the data,

making comparisons, and in doing so deriving concepts to stand for those data, then developing those concepts in terms of properties and dimensions” (2008:66).

The process of analysis followed four stages, summarized in the table below.

**Table 3.2. Stages of data analysis**

<b>Aim</b>	<b>Data analysis Phase A:</b>		<b>Data analysis Phase B:</b>	
	<b>Stage 1:</b> Identifying broad themes and categories within each case	<b>Stage 2:</b> Exploring properties and dimensions within each embedded case	<b>Stage 3.</b> Enriching & clarifying concepts Comparison with existing theory	<b>Stage 4.</b> Integrating categories Validation with key respondents
<b>Level of analysis</b>	Org. Level <i>Telco</i>  <i>The School</i>	Group Level <i>Telco</i> • <i>Operations/ Middle management</i> • <i>Senior Management</i>  <i>The School</i> • <i>Academics</i> • <i>Administration</i>	Group Level <i>Telco</i> • <i>Operations/ Middle management</i> • <i>Senior Management</i>  <i>The School</i> • <i>Academics</i> • <i>Administration</i>	Org. level <i>Telco</i>  <i>The School</i>
<b>Analytical steps</b>	<ul style="list-style-type: none"> <li>• Open coding</li> <li>• Memos</li> <li>• Detailed report of each case</li> </ul>	<ul style="list-style-type: none"> <li>• Axial coding within each embedded case</li> </ul>	<ul style="list-style-type: none"> <li>• Selective coding within each embedded case</li> </ul>	<ul style="list-style-type: none"> <li>• Integration</li> <li>• Theoretical framework</li> </ul>
<b>Data</b>	<ul style="list-style-type: none"> <li>• In depth interviews from the first phase of data collection</li> <li>• Non participant observation</li> <li>• Archival Data, Documents</li> </ul>		<ul style="list-style-type: none"> <li>• In depth interviews from the second phase of data collection</li> <li>• Documents</li> <li>• Communication with key respondents for validation</li> </ul>	

**Stage 1.** This stage of analysis was based on data collected during the first phase of the research. At this stage all data (including interviews, archival data

and non-participant observation) was treated as data to be analyzed thoroughly. Corbin and Strauss (2008) suggested that grounded theorizing begins with the process of microanalysis: a process of very close and detailed reading of the data that aims to “break open the data to consider all possible meanings” (2008:59), similar to the use of a microscope to carefully examine small pieces of data. Through the process of microanalysis I was enabled to dig deep into the data and focus on elements that seemed relevant but whose meaning remained unclear at first sight. Microanalysis was therefore an important tool to uncover different potential meanings as it “forces the researcher to think outside his/ hers frame of reference” (Corbin and Strauss, 2008:59). Concluding this first stage of analysis, I wrote a detailed case background for each organization, describing the change efforts that were taking place at the time, the new strategy that was being introduced and other contextual factors (organizations’ history, culture and embedded values) that informed subsequent analysis in terms of the management of ambidexterity tensions.

In order to stay as true to the actors’ first order perspectives as possible, I analyzed each interview in depth using the technique of open coding (Corbin and Strauss, 2008). Data was explored openly and in many cases in vivo codes were used so as to stay as close to the data as possible. Each interview of the first round of data collection was analyzed in this open manner until no further codes were identified and as a result, this first analytical step produced a large number of codes, that covered all areas of the research (new strategy, leadership, change efforts, organizational processes prior and following the new strategy, innovation and efficiency goals, perceptions around of the new strategy and goals, management strategies, organizational culture, organizational structure).

The use of NVivo software allowed for the broad categorization of the initial number of codes into groups of main codes, (tree nodes). One tree node for example would include a number of sub-nodes (codes) that would fall under this broad category (for example: barriers to innovation). Following this process of analysis was beneficial for two reasons. First, it allowed me to work openly towards the data so as to make as sure as possible that no important data was omitted from the initial stage of coding. During this step I made a conscious effort to include codes that seemed irrelevant to the broad areas I was interested at the time. Secondly, the broad categorizations of tree nodes allowed me to work with a more manageable number of grouped codes. Tree nodes were continuously refined and enriched as the analysis was progressing in order to reflect subtle meanings and differences within the data.

Following the tools of asking questions about the data (why, when, why now, etc.) and techniques such as “raising the red flag” (“never have I seen this happening” etc.) I dedicated a substantial amount of time interrogating the initial data. The aim of this first stage of the analysis was to immerse myself into descriptions and organize the data into discrete categories according to their properties and dimensions. What did an ambidextrous strategy mean for organizational actors, how was the organizational structure or processes been affected, which were the barriers or facilitators for these processes, how did individuals cope with managing dual demands, how did the organizational context affect this tension management?

During this step of open coding I also documented early thoughts and emerging concepts in written memos. Some of these memos expanded upon the categories emerging from the analysis while others served as indicators for further

research. During this first phase of the analysis I identified broad themes around innovation and efficiency that included definitions, connotations, barriers and other contextual factors that were considered by actors as playing a key role in helping them deal with these dual demands. A key reoccurring theme at this point was the multiple and different use of the terms “innovation” at different organizational levels and the different tensions that were perceived by organizational actors.

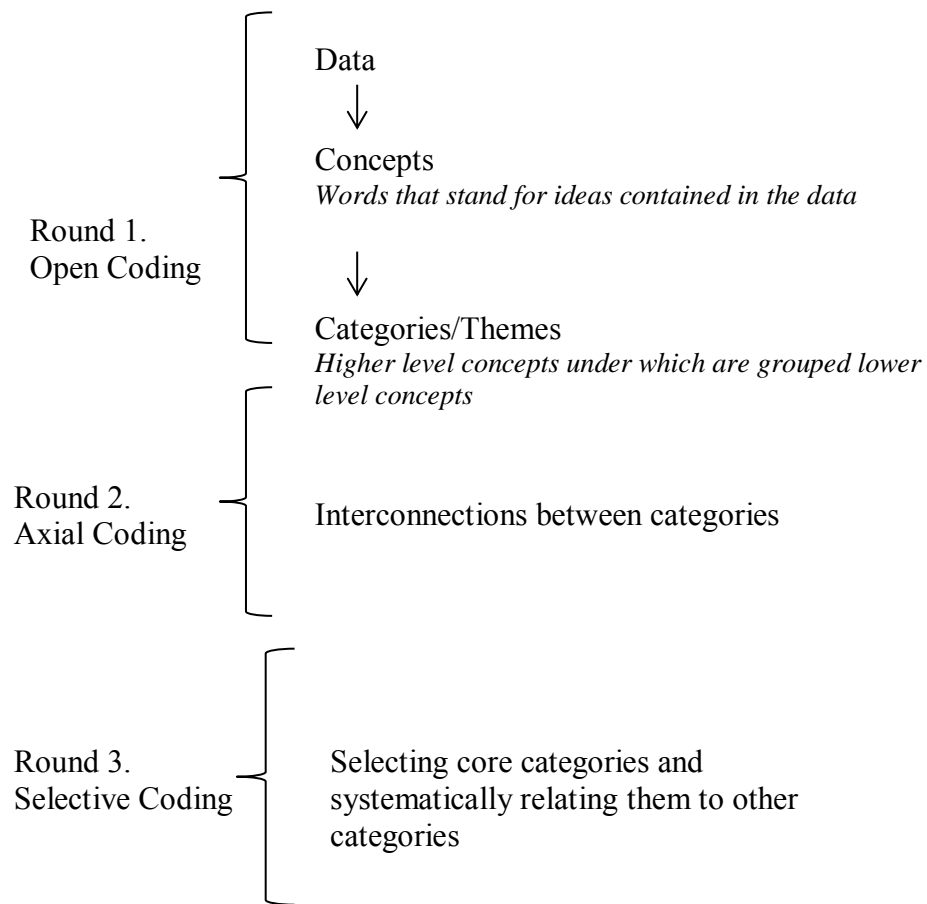
*Stage 2.* Building from insights from the previous stage of analysis this second stage aimed at further exploring in depth the dimensions and properties of emergent categories and concepts within each embedded case. I performed a second round of axial coding aiming at linking these first order concepts together by making connections between categories. This process involved linking codes to contexts, to consequences, to patterns of interaction and to causes (Corbin and Strauss, 2008). At this stage, similarities and differences between organizational actors’ perceptions and actions began to emerge and the central axes of analysis within each embedded case were identified. More specifically the alternative conceptualizations of innovation were analyzed in the context of different specific aspects of strategic intent within the case organizations.

Looking for further interconnections between concepts allowed for a more refined approach and a higher order categorization into main themes. During this phase I used a number of techniques such as diagrams and memos as a way to review and sort data and identify central categories within each embedded case study. Concluding this second stage of analysis allowed me to categorize data within each embedded case and identify commonalities and differences in connotations and management practices within each case.

*Stage 3.* The insights and emergent themes from these two stages of data analysis informed the second phase of data collection, where I was given the opportunity to clarify, enrich and validate my findings with key informants. After the second phase of data collection I preceded with a third stage of selective coding aiming at exploring the interrelations of key themes within each embedded cases. The steps this process entailed was to select core categories, systematically relate them to other concepts, validating those relationships and filling in categories that need further refinement and development (Corbin and Strauss, 2008). This stage of the analysis enabled me not only to refine key concepts within each embedded case but also identify patterns in terms of how tensions of innovation and efficiency were perceived and managed. Findings from each embedded case acted as confirming or disconfirming of the emerging concepts from the previous case (Yin, 2009). In this context, each embedded case was an opportunity to explore how tensions of ambidexterity are perceived and managed based on specific contextual factors, such as strategic orientation, incentives, and organizational level. More specifically, my aim was linking different manifestations of ambidexterity tensions with their subsequent management, each adding a piece of the puzzle of how organizational tensions can co-exist and interact within and across organizational levels and compared findings to pre-existing theory. At this stage the analysis became more theoretically driven as concepts and themes were systematically examined and compared with existing theory. Analysis here was organized around two main axes: tension manifestation (which tensions arose at each level) and tension management (how these were managed by organizational actors).

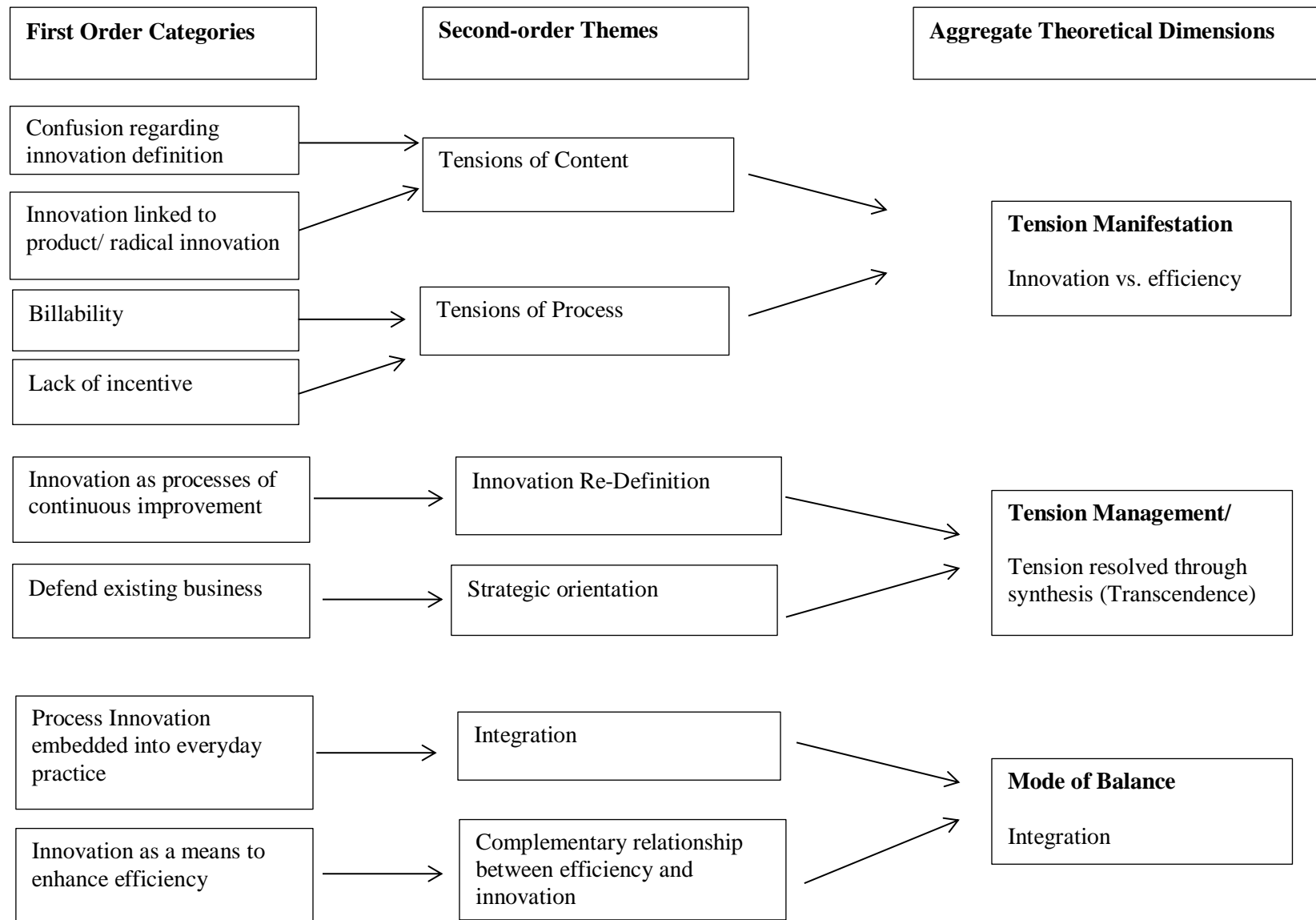
The three rounds of coding are summarized below:

**Figure 3.3. Rounds of coding**



As a result of these stages of coding, I produced detailed coding trees and summarizing theoretical diagrams for each embedded case. The coding diagram below serves as an example of the coding process of the first embedded case, (operations and middle management at Telco). Further coding and theoretical diagrams of each embedded case are presented in the following chapters (Chapters 4 & 5) where the grounded approach to data analysis is presented in detail.

**Figure 3.4. Data structure based on coding process (Case 1)**





*Stage 4.* The last stage of my analysis was aiming at theoretical integration and validation of findings through the communication with key informants. In that context, emerging themes were shared and fine-tuned with key informants in order to enhance internal validity (Bryman and Bell, 2007). Integration was based on the process of linking categories around a core category, refining and trimming the resulting theoretical construction. Through individual and cross-case analysis each case contributed to the identification of patterns across all four embedded cases. This last stage of the analysis resulted in a theoretical model that depicts a path dependent process of tension manifestation and management, based on how tensions were perceived (contradictory, interrelated, independent), actors' organizational level and strategic intent and the organizational context (incentives, culture, processes). This model is presented and discussed in detail in chapter 7.

A main focus at this final stage of analysis was to make sure that all properties of core concepts were fully analyzed in a way that reflected what the data and the interviewees were trying to convey. Corbin and Strauss (2008) define this last phase of the analysis as theoretical saturation, where no new concepts are emerging from the data; ending when the researcher is "feeling right", in other words when the researcher believes that the essence of the data is reflected through the eyes of the particular analyst. Throughout all rounds of analysis I consistently interrogated both my data and the theoretical concepts that were emerging in order to prevent fitting the data to illustrate a theory (Mantere et al., 2012). In both cases, I was particularly aware of not falling into the traps of my own biases. Critical self-reflection and validation of emergent themes from the research with members of both organizations acted as safety nets against the

unavoidable presence of preconceptions when analyzing data (Pozzebon et al., 2011).

### **Summary**

Following a multiple embedded case methodology the aim of this research was to explore how ambidexterity is achieved in practice by focusing on how tensions of innovation and efficiency are manifested and managed at different levels of an organization. This chapter presented the philosophical underpinnings that guided my research, as well as the methodology and an overview of the stages of analysis (see Table 3.3. below). Following a grounded approach method of analysis, the following chapters will present in a detailed and systematic way how findings emerged from analysis in each case organization and each embedded case.

**Table 3.3 Summary of methodology**

<b>Research Method</b>	<b>Research Context</b>	<b>Research Design</b>	<b>Analytical process</b>
<p>Longitudinal case study</p> <ul style="list-style-type: none"> <li>• Suitable method for both explaining a phenomenon and developing theory</li> <li>• The phenomenon under study is situated in and informed by a real life context</li> <li>• The holistic and meaningful features of real life events are maintained</li> <li>• The iterative process of data collection gives the opportunity to reflect on the data as they emerge and refocus or redefine the definitions of the constructs in accordance</li> </ul>	<p>Two organizations that manage the challenges of the simultaneous pursuit of innovation and efficiency have been selected, following the approach of theoretical sampling (Yin, 2009)</p> <ul style="list-style-type: none"> <li>• Both organizations, operate in highly competitive environments and are undergoing organizational change in the pursuit of ambidexterity</li> <li>• In these knowledge intensive environments the individuals of both organizations face intense pressures to achieve ambidexterity, through a series of changes whereby newness, innovation and exploration are paired with efficiency, and process improvements to enhance exploitation.</li> <li>• Both organizational change efforts have taken place prior to as well as</li> </ul>	<p>Within these organizations four embedded cases explore the different manifestations of the exploration/exploitation tension, following a <i>multiple embedded case approach</i> (Yin, 2009)</p> <ul style="list-style-type: none"> <li>• The multiple embedded case study method offers the opportunity for more refined analysis within and across organizational levels, leading to more compelling and robust evidence (Heriot &amp; Firestone, 1983)</li> <li>• Individual and cross-case analysis contribute to the understanding of patterns across cases</li> <li>• Methods of data collection: semi structured, open ended in depth</li> </ul>	<p>Grounded theory principles</p> <ul style="list-style-type: none"> <li>• This method of analysis is considered appropriate as a practical method for conducting research that focuses on the interpretive process by analyzing how social actors in real settings produce meaning and concepts (Glaser and Strauss, 1967)</li> <li>• Three distinct yet overlapping processes of analysis are used:</li> <li>• Open coding (exploring the data and identifying relevant categories),</li> <li>• Axial coding (looking for interconnectedness of categories)</li> <li>• Selective coding (a core code and the relationship between</li> </ul>

<p>to the emerging context (Eisenhardt, 1989)</p>	<p>during the study, making both settings a very fruitful context to explore how tensions of ambidexterity are perceived and managed at the individual level but also the organizational factors that influence these practices</p>	<p>interviews, non-participant observation, key internal documents, publically available archival data</p> <ul style="list-style-type: none"> <li>• Triangulation of the data will enhance internal validity</li> </ul>	<p>that core code and other codes is identified and the coding scheme is compared with pre-existing theory).</p> <ul style="list-style-type: none"> <li>• The analysis aims to shed some light on the different manifestations of the exploration/exploitation tension in different organizational settings and also draw inferences between the individual's perception on the nature of the relationship between the two poles of the tension and its subsequent coping mechanisms</li> </ul>
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## **CHAPTER 4. ANALYSIS AND FINDINGS: TELCO**

This chapter will present the analysis of the first case organization (Telco) and of its two embedded cases (Operations/ Middle management & Senior Management). As described in the methodology chapter (3.2.1. data analysis), in this research I followed four stages of analysis. In the first stage of open coding I extensively and openly analyzed each case organization for broad themes and categories. Using data from the in depth interviews, documents, archival data and my own memos and field notes, the first stage of analysis ended with a detailed case report. This case report is presented below and forms the introductory part of the analysis chapter. The aim of this section is to provide with deeper understanding of the contextual factors that have shaped both the research and the analysis. After the case report, I will present the analysis of each embedded case, (stages 2 and 3 of my research analysis). Finally the chapter will end with an integration of findings across embedded cases and the key implications for the research of ambidexterity.

Based on Telco's recent organizational restructuring (2010) and new strategy that focused on innovation as a key strategic priority, the organization was a fruitful context for my research on how tensions of ambidexterity are perceived and managed in different parts of the organization. Whereas various tensions arising from the pursuit of ambidexterity have been well documented in the literature of ambidexterity, how these are interpreted and managed by actors themselves remains largely unexplored. Three alternative conceptualizations of innovation, each linked with a specific aspect of strategic intent of the organization, emerged from the analysis (innovation as defending existing business, innovation as growing existing business and innovation as exploring

new opportunities for growth outside the organization's current scope). Each of these conceptualizations involves a different perceived relationship between innovation and efficiency, and each entails a corresponding mode of balancing pursued by the actors experiencing these tensions. Furthermore, these different conceptualizations were also related to the emergence of latent tensions of ambidexterity at each level, drawing a more complex and dynamic picture of nested tensions at different organizational levels.

#### **4.1. Case background**

*The company.* Telco is one of the leading suppliers of telecommunication equipment, multimedia and related services across the world, with over 100,000 employees. One of Telco's core competences is its focus on technology and R&D supported by one of the largest R&D programs in the industry (more than 20,000 dedicated employees and approximately 20% of net sales) (Annual Report, 2011). A strong patent portfolio of around 30,000 granted patents also reinforced the company's technology culture. During the past years Telco has complemented its leadership position in hardware with a focus on software making the company one of the largest software companies in the world by revenue.

By 2012, Telco was organized around three key segments: networks, services and support solutions. The network segment, accounting for about 55% of net sales in 2011, covered mainly equipment for mobile operators, core networks, microwave transport, Internet Protocol (IP) networks and fixed-access solutions as well as operations support systems (OSS) for optimum efficiencies. The support solution segment, accounting for about 5% of sales, developed and delivered software based solutions.

Managed services contracts with operators were becoming a valuable segment for the company, accounting for approximately 40% of net sales in 2011. Whereas the managed services segment was mainly based on contracts with operators, Telco was at the time of the research also exploring other industries (such as public safety and utilities) in search for new opportunities for growth. This research focused on the services segment which was established as the company was transitioning from a purely product driven organization to a communications solution provider. Participants were responsible for key areas of the Global Services segment of the organization (operations, strategy, communications, new business development), Telco's largest business unit accounting for more than 40% of total net sales (Annual Report, 2012). This segment was a fruitful context for our research as maintaining efficiencies and providing new and innovative solutions was a key strategic priority for managed services. At the same time I had the opportunity to explore tensions of efficiency and innovation as the organization was exploring new opportunities for growth, outside its traditional scope.

*In the region where I work which is west and central Europe, our services revenue exceeds our product revenue. So we are services led in that respect and we're one of the leading regions in that globally. So, you know, services culturally I think the consultative bit is the bit that's still new or the whole organization hasn't already got their head around it yet. (Head of Design and Integration)*

The company operates within an environment of intense competition in all of its segments (network equipment, professional services, multimedia). In the networks segment, the company competed mainly with large and well-established communication equipment suppliers but also with local and regional manufacturers and providers of communication equipment and services. In

particular the rise of Huawei, the first Chinese ICT company to move into Europe, has added increased pressure on Telco due to its aggressive costing practices and business models<sup>10</sup>. In the professional services segment competition includes also traditional consulting companies (Accenture, HP, IBM, Tata Consulting Services) and finally in the multimedia segment Telco competes with communication equipment and IT providers such as Amdocs, Comverse, Harmonic, Oracle and Thomson (Telco Datamonitor, Report 2011).

Telco's position is defined by long-term relationships mainly with large telecommunication operators around the world, serving approximately 400 clients in more than 180 countries, most of whom are network operators (Company Website). However, dependency upon large, multi-year agreements with a limited number of customers made the company highly vulnerable to possible volatility of demand (Telco Datamonitor Report). The telecommunications market was by 2011 characterized by a rapid increase of mobile broadband connectivity (increase of mobile broadband connections of around 60% in 2011) and a rapid expansion of mobile devices both of which influenced dramatically how data and content was circulated and consumed (Telco Annual Report, 2011). Within that context operators were investing in mobile broadband and services, new equipment and upgrading networks to handle the increasing data traffic in an efficient way. At the same time changing regulations, low levels of economic growth and high levels of service substitution negatively affected operators' from investing in network equipment or upgrading services (Company Data).

Pressure on mobile operator margins drove requests for further cost reductions bringing Telco to a vulnerable position:

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<sup>10</sup> (Source: Published article)



*The way the market is changing now, I mean we're seeing operators consolidate, and networks. Will our operators be successful? I mean the people have taken most, many out of the mobile industry today are Apple and Google, we don't supply to them. Then they ride on top of the operators' network so you know what's going to happen in the future? The Internet presents huge opportunities for us, but also big threats as well I mean we supply to our customers today, are they going to survive? (Director Strategy & Business Development UK- Ireland)*

***Dealing with demands for both efficiency and innovation.*** Faced with increased competition and diminishing profit margins in offering standalone products in mature markets, one of the biggest challenges for Telco has been how to balance the need for efficiency while at the same time explore new opportunities for growth. By 2012 Telco was still on the road to recovery from the brink of collapse caused by the telecommunications crisis in early 2000 (Telco published case study ). During this decade the organization went through a series of restructurings and drastic cost cutting programs that halved its operating costs and number of employees, in an effort to avoid bankruptcy. After the succession of two and 3 years of declaring losses, the first profit quarter was announced in 2003. By 2010 Telco was still in the process of streamlining its operations while at the same time diversifying its portfolio, under the leadership of a newly appointed CEO.

Turbulence within the telecommunication industry had influenced dramatically how Telco would think and act in terms of innovation and new opportunities. A senior manager described Telco's roller coaster journey from high levels of profitability during the 1990's to the dot-com crisis in 2000 and the current efforts for maintaining a balance between efficiency and innovation:

*Let's say late 90s, there was a lot of innovation and there was lot of slack in the organization, a lot of money, I mean you could start anything, you*

*could do new things here and there and it was done. Then we kind of moved very dramatically into the period with dot-com boom and the crisis and following that there was a complete shift to the other end, and everything that was blue sky, that was kind of cut out. We went from one hundred thousand employees to forty five thousand employees, that's less than 50% of the company and that is kind of a complete operational excellence model extremely radical in a sense ... it's cutting the company in half and still delivering to customers. And now we're in a situation kind of come back, started to talk about innovation as something that we do every day and we do it in order to improve our own efficiency, but we also do it in order to find new areas to grow and because that's needed in the longer term. So it's kind of two periods where we have one of the extremes, easy to understand given the context and so on, moving in now to a more kind of balanced approach. (Manager Strategy & Regulatory Affairs)*

In order to respond to increasing pressure for efficiency Telco rolled out a global efficiency initiative, with cost cutting efforts across all business segments and regions where the company operated. By the early 2013 the company announced further plans to reduce working staff in the company headquarters by 8.7%, leading to approximately 1,000 redundancies.

***The corporate strategy.*** Faced with increased competition, diminishing profit margins in offering standalone products in mature markets, and growing pressures from existing customers, one of the biggest challenges for Telco at the time of the research, was balancing the need for efficiency while at the same time exploring new opportunities for growth. This dual demand was expressed by the company's strategy: to capitalize on existing competencies to find new opportunities for growth while maintaining operational efficiency (Annual Report, 2010).

*We have to innovate as the market moves and we have to demonstrate we are efficient. So even though we want to sustain a high margin on the services, we still have to communicate that value. We have to be efficient about how we do things; otherwise we won't sell or be successful. (Head of Design & Integration- Services)*

However, this dual demand added a level of complexity within the organization in terms of how it was communicated and perceived. As Global Director for New Business Development and Innovation noted:

*Leading a large organization is all about simplicity, one message, not more. These are two messages right there, conflicting and people sense that and then, yes, that creates frustration and pockets in the organization. So not everybody can be happy every day, you know with that type of added complexity. It's a little bit more difficult to explain in the organization and have the organization to work smoothly in that manner.*

A series of strategic decisions reflected the need for operational excellence as well as the pursuit of new opportunities for growth. In 2010 the organization underwent a profound organizational restructuring. The “regionalization” that took place in 2010 consolidated Telco’s 23 market units into 10 regions across the world in an effort to increase efficiencies and explore new opportunities for growth by having a more customer focused approach.

According to the old organizational structure Telco was organized around 23 market units, comprised either by a country if it was big enough or a collection of countries that formed a critical mass. The market units would report directly to the headquarters, a structure that not only increased central control leaving little autonomy to the market units but which was also overloading headquarters operations.

*...The number of market units was 23, which managing on a global basis*

*is too many. So in the headquarters they had 23, you know, direct reports one for each market unit, and as time changed and things evolved it was decided that we would then move to 10 regions. (Vice President - Managed Services & Outsourcing)*

This shifted responsibility from the headquarters to the regions in maintaining a common approach to sales and at the same time act proactively and explore all emerging opportunities for growth. The regionalization also was an organizational structure that would allow the pursuit of new types of innovation.

*So we should have stronger regions, we're moving from a lot of the market units that are kind of the sales outlets to regions that have little bit more critical mass to be able to do the focus on innovation based on insights and the markets around them, finding partners, working closer with the customers and so on. So that is kind of one part of our innovation strategy if you like the regionalization, creating larger more stronger units out there that could drive innovation forward. (Director, New Business Development & Innovation)*

Within the process of recovering from the telecommunications crisis in early 2000 Telco's shift towards a regional structure aimed both at increasing efficiencies (through the reconfiguration of assets within a larger area of the organization) and supporting Telco's transition from a purely technologically, product driven company to a service organization, in position to provide wide-ranging communication solutions to customers. In 2010 Telco was one of the 10 biggest IT services providers in the world by revenue (Annual Report, 2010).

This shift was based on the development of new go-to-market strategies and new ways of connecting with consumers in order to provide with wide-ranging communication solutions. As a Telco senior manager explained:

*I think if you look at Telco in 2002 we nearly went out of business, we came very, very close to that and with cash flow issues and dot-com bubble burst and I think in those times, obviously things become centralized very*

*much because you need to get control of this, especially when you reach the edge like we did. And that was good but we're probably a bit too centrally controlled for a bit too long, you know, the cycle of things get controlled but then it was really, became too much. (Customer Unit Head, UK-Ireland)*

This consultative-selling approach was further reinforced by the role of the Engagement Practices in the regions, a separate structural unit specializing on a specific domain. Each region would also include seven engagement practices (EPs): managed services, mobile broadband, communication services, consumer and business applications, fixed broadband conversions, OSS, BSS, TV and multimedia. The philosophy behind the EPs was to bring a more consultative approach to Telco's approach to customers as competences in each domain where end to end, covering all aspects from a business and commercial standpoint to technical solutions and applications. Engagement Practices were rather independent units within the region, each run in a different way and with resources spread across the region. This structure allowed for individual countries to benefit from the competencies in different domains, which would previously be unavailable, thus tapping the potential of a larger number of countries.

*So if an opportunity comes up in Slovakia and there is no one there, I will ask one of my teams and say would you mind travelling to Prague or Bratislava or Budapest if it's Hungary or whatever and acting as the subject matter expert for that bid and that's what we do. (Vice President Managed Services & Outsourcing)*

The different EPs within the region were supported by a common delivery organizational structure within the region that replaced a former complicated country specific delivery process. In that context the regionalization allowed for increasing efficiencies within the regions by sharing resources;

improving the common ways of working and finally simplifying organizational processes within a larger group of formerly independent countries.

*It's a good way of trying to bring some commonalities back where a lot of countries would have gone off and done their own... Greater commonality, greater share and, greater reuse take things that have been done before, but don't try and reinvent the wheel. That's definitely a goal. So that's a very different view from before when there would be 10 maybe for this region, delivery structures in place. (Managed Services Chief Operating Officer)*

The Table below summarizes the philosophy of the regionalization in terms of increasing efficiencies across regions and pursuing a more consultative selling approach by being closer to the customers.

**Table 4. 1. The restructuring of Telco**

		<i>Illustrative Quotes</i>	
<b>Strategic intent</b>	<b>Increase efficiencies</b>	<p><i>Increased commonalities &amp; simplified organizational processes</i></p> <p><i>More efficient use of resources</i></p>	<p><i>One is to get greater efficiency through being able to share resources on a regional basis, improve the common ways of working across the regions, across the countries, reduce the number of interfaces into the global organizations to try and simplify a lot, one common core, one common resourcing or one common way of working globally (Managed Services Chief Operating Officer)</i></p> <p><i>The philosophy around it was to try and coordinate better across the countries... Essentially they were country units and the feeling was that there was a lot of duplicated resource and they could combine those countries together into a region and therefore reduce the duplication and effectively free up resource to be used in the different areas. (Account Director)</i></p>
	<b>Explore new opportunities for growth</b>	<p><i>Closer to the customer</i></p> <p><i>New go to market approaches</i></p>	<p><i>So then there's the realization that we need to get close to the market, we need to make faster decisions and be closer to our customers' need and feed those things back in so we said okay, now we're going to go out to like 10 strong regions (Customer Unit Head, UK-Ireland)</i></p> <p><i>We're moving from a lot of the market units that are kind of the sales outlets to regions that have</i></p>

			<p><i>little bit more critical mass to be able to do the focus on innovation based on insights and the markets around them, finding partners, working closer with the customers and so on. So that is kind of one part of our innovation strategy if you like the regionalization, creating larger more stronger units out there that could drive innovation forward. (Director, New Business Development &amp; Innovation)</i></p> <p><i>Look at market trends, look at their customers, understand what capabilities we have and then to work out propositions which are compelling and differentiate Telco in the market. (Head of Design &amp; Integration- Services)</i></p>
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***The Organizational transformation: Shifting from products to services and embedding everyday innovation.*** The process of regionalization with the aim of facilitating a more consultative approach, was a step towards Telco’s shift from a purely technological and product driven organization towards becoming a telecommunication solution provider. This transformation was considered necessary for the company’s survival in the future and was based on maintaining a balance between exploiting current business and exploring new areas for growth.

*So this is the reason for moving to solutions, innovation, thinking outside the box... because if we continue just to try and sell base stations, we're going to be in a lot of trouble. And that, you know will take a very long time. When you're working in the telecommunications industry, you eventually have a condition known as Telco-vision. It means that you cannot see beyond Telco markets . . . And opportunities may not be – shall we say, in line with the traditional markets. So you have to take very much an untraditional view of the market, which is adopting new perspective. (Vice President Managed Services & Outsourcing)*

The strategic emphasis on innovation in this transformation was reflected in Telco’s mission statement “Innovating to Empower People, Business and Society” and the company’s vision “to be the prime driver in an all-communicating world” where all devices will be interconnected, opening up a

broad area of opportunities for technology and services for Telco (Annual Report 2011). The terminology used was also a sign that Telco wanted to be placed as a key communications player within society rather than a provider of telecommunications products to operators, opening up to a broader market.

Within that strategy, Telco's "engineering culture", based on the company's long history in technology and patents was in a phase of redefinition. The transition to a communications solutions provider demanded a shift of perception both externally and internally of what Telco was really about.

*Telco has probably a strong perception of being telecoms. Telco isn't telecoms, it isn't today the telecoms. That's one part of Telco. It's a well-known part of Telco. And the challenge for Telco is making sure that Telco is known as the company that it actually is. (Design Manager)*

This transition was experienced by organizational actors as a long journey Telco would have to go through not only because of the scale of change but also because of the risk averse and somewhat conservative organizational culture.

*I think it will change slowly. I mean the regions have helped, their engagement practices help. You know, we are bringing in some new blood at the moment so that will help too, but I think it will take time for that conservative, staid Scandinavian risk-averse culture to really shift. I think it's slowly starting to happen, I really do. How long it takes who knows. (Director Strategy & Business Development, UK- Ireland)*

In this context a key emerging issue was the need for a framework that could create a sense of continuity for the organization but that could also accommodate new values and meanings.

***The emergence of a new type of innovation.*** Whereas the company's strong position in the market had been based on operational excellence and efficiency, increasing competitive pressures necessitated the pursuit of new product-markets. In that context, Telco's transformation to a communications



solution provider marked the turn towards a new type of innovation. “Market and insight driven innovation” as opposed to technological innovation was customer driven and included new business models, processes and services based on an extrovert approach in terms of meeting new and emerging needs of customers and markets.

Contrary to technological innovation, this type of innovation was no longer the sole responsibility of R&D departments but was promoted throughout all levels of the organization, through the company strategy as well as a series of internal processes. As the global Director for Innovation and Business Development explained the aim was not for market and insight driven innovation to replace but rather complement technology driven innovation. This new type of innovation was especially relevant within the managed services segment:

*See at the moment there are in a bit of a flux because the old innovation space in Telco was in the R&D space, that's not what innovation is anymore. (Head of Operational Excellence and Innovation)*

Responsibility for innovation now cascaded throughout the organization through a layered model of innovation, where each level was responsible for addressing the opportunities arising within its scope. This new approach to innovation (also supported by the organizational restructuring that decentralized responsibility for innovation across the regions), demanded a reversal in the process of innovation, from internal R&D towards being more externally driven.

*...Market and insight driven innovation means that your starting point, the thinking process for innovation starts outside the company, social processes, what's happening there or customers what do they say, what progress do they see, and then second you in turn to do have any products that could now help fixing this or addressing that value or that potential and so on.. (Director for New Business Development and Innovation)*

This broader view on the sources of innovation that could also include customers and market insights depended upon building a more proactive and customer focused approach. According to the CEO<sup>11</sup>:

*We need to be proactive. It's staggering how the market is moving and we have to support our customer, put the customer first and work backwards to what we need to do in the company. That means I put my key account manager in front and then work out what kind of support that key account manager needs to support the customer. I don't start from the products, I start from the customer.*

However, shifting towards a new type of innovation within a traditionally engineering-focused organization was a challenge for Telco. This new type of innovation marked a significant change for the organization in terms of innovation definition, which was traditionally associated with products and technology. Shifting perceptions of innovation therefore stumbled upon deeply rooted cultural beliefs of innovation linked with high-end technology and patents.

*In the past possibly there have been parts of the organization responsible for innovation and a certain type of innovation that has been the most prominent one, and that's the one around technology and products. But suddenly it's not only the R&D because everybody needs to do that. And yes then it becomes a challenge because you're kind of shifting a little bit the culture and the way the company thinks about itself... because the heroes in a technology driven company are the kind of core engineers but now we need to celebrate other heroes that are doing process innovation or sales channel innovation or listen to the customers and figure out clever, new ways to address new value and ones that could find the right companies to buy and so on. So innovation suddenly becomes much broader in scope. (Director for New Business Development and Innovation)*

In the face of this new type of innovation that was now communicated as

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<sup>11</sup> Source: Published interview of Telco CEO, March, 2010

one of Telco’s key strategic priorities, the organization was faced not only with the challenge of maintaining a paradoxical strategy (pursuing both innovation and efficiency) but further adding a level of complexity by introducing new meanings around what innovation really is about. According to a Regional Head of Marketing and Communications:

*So innovation in a way it's a bad word because it's kind of, it involves all kinds of connotations and so on. So you have kind of an uphill battle to make sure that everybody has the same or similar understanding of what it is. There are parts of the organization we're still struggling with that. I mean the most difficult distinction that we need to kind of get across in an organization like Telco is just the difference between invention and innovation.*

The Table below highlights the key differences as seen in Telco, between the traditionally established product and technology driven innovation and the newly introduced market and insight driven innovation, which became one of Telco’s key strategic goals.

**Table 4.2. Types of innovation as viewed in Telco**

	<i>Product &amp; Technology driven Innovation</i>	<i>Market &amp; Insight driven Innovation</i>
<b>Company Label</b>	Invention	Innovation
<b>Source of Innovation</b>	Internal R&D's responsibility	External (Market orientation) Everyone's responsibility
<b>Organization Culture</b>	Consistent with Telco’s engineering culture	In conflict with the traditional Telco culture

*Organizational approach to innovation.* In order to support its innovation strategy Telco introduced in 2008 a collaborative tool for innovation called Idea Boxes, open to all Telco employees to submit ideas whether these related to

processes, products or services (Karlsson, 2011). “*Innovate every day*” was also introduced as a company mantra in order to promote innovation across the entire organization, irrespective of hierarchy or domain. This approach towards “everyday innovation” was one of the two key qualities Telco looked for in its newly recruited employees (the first one being placing the customer first) and marked a shift towards making innovation a responsibility of all employees.

*But equally we are putting a responsibility on everyone, not a central team, I mean otherwise everyone else would wash his hands and think, “you know there is an innovation guy worrying about that”. (Head of Design and integration Services)*

The innovation management tool (Idea Boxes) was available to all level employees as a route for submitting innovation ideas without restrictions in terms of innovation types (radical or incremental) or domain (product, services, processes etc.). As one of the architects of this tool explained, the aim for the innovation scheme was to grow “bottom up, building on local needs and motivations and scale as to reach all employees and external partners”. This innovation process was intended to be self-organizing with minimum central administration, reflecting the message that innovation was now a shared responsibility.

The Table below summarizes the two pillars of the organizational approach towards introducing innovation, the company mantra “Innovate Every Day” and the innovation management tool (Idea Boxes).

**Table 4.3. Telco’s organizational approach to innovation.**

<b>Company Mantra: “Innovate Every Day”</b>	
<i>Introducing innovation as part of everyday work</i>	<p>So innovation is part of strategy and part of brand, very much part of the brand. One of the things we were told is innovate every day. So, it’s meant to be part of everything we do every day. I think now there’s a mindset change that needs to happen, which is actually it should be part of everything you do. (Internal Communications Manager)</p> <p>Innovate every day would be kind of a key thing to our success. The value-add we bring to our customers can be described as the innovation that we bring every day. (Managed Services Chief Operating Officer)</p> <p>Innovate every day is not necessarily making massive changes in a company, it’s basically looking at whatever you are doing day-to-day in a fresh way as if you are a third party saying okay does that really make sense, you know, how can I do it the best way and it could be small things or it could be stuff that you see in others or it could be stuff with the customers. (Head of Design &amp; Integration- Services)</p>
<i>Everyone’s responsibility</i>	<p>So “innovate everyday”, they want everybody to think in innovative ways and what’s a new way that we can do this, what’s a new way that we can engage with the customer or that we can work better as a team and these sorts of things and the idea is to say these are the things we believe and these are the things we think will make us competitive and therefore we want to focus on those and try to incorporate that into daily routine.... It is a bit of a sort of wishy-washy, how well you embrace the five values. (Solutions Integration Engineer)</p> <p>It should be part of everything you do. "Innovate everyday" is just part of, you know, if you think that you can do something better, you need to change it. (Internal Communications Manager)</p>
<b>Innovation Management Tool – Idea Boxes</b>	
<i>Process of Idea Evaluation</i>	<p>So we have a robust process whereby we have an idea management tool, people can submit their ideas, they get filtered, they get looked at, they then have a champion that looks at them to see whether it’s feasible (Innovation Program Manager)</p>
<i>Type of innovation ideas</i>	<p>We have the tool called Idea Boxes. And now we decided the leadership team of our region, that we would create three different idea boxes for the whole region. We wanted to structure the ideas so we wanted the people who submit ideas to also think what kind of ideas they are. We have three categories, one is for ideas related to cost reductions, the Idea Box is called Efficiency and Ways of Working, the second Idea Box is for improving our existing business and the third one is new business models, new business ideas. (Manager Strategy &amp; Regulatory Affairs)</p> <p>The innovation scheme provides another vehicle for the things that maybe couldn’t go through. Someone has an idea. It’s completely</p>

	different to their normal day-to-day functional area. And they don't have a channel to bring their idea to the business. (Managed Services Chief Operating Officer)
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***Talking about innovation in an innovative organization.*** As innovation was becoming a key theme for the entire organization at the time of the study, much of the research and subsequent analysis was dedicated in trying to untangle this broad concept, its properties and dimensions based on actor's first order perspectives (Paroutis and Heracleous, 2013). The aim of my research was to understand how employees perceived and managed this dual demand within their day-to-day work. In that context innovation served both as an introductory theme during the in depth interviews and a basis from which various tensions emerged. As discussions unfolded with different organizational actors, it soon became evident to me that the concept of innovation took various forms within the organization. Definitions were loosely used to describe new products, new services, enhancements in current products or services, both internally and externally. The concept of innovation was becoming very broad and covered all areas of the organization.

A manager responsible for running a local innovation management tool shared his experience of "what innovation means for Telco" after running a series of focus groups across all UK Offices:

- *In general, what does innovation mean for people around the organization?*
- *Very different things; very different things. It's not very clear ... People usually said patents, non-patents, so that's one thing. Other people said, (innovation is) quirky ideas. So it's just having these crazy ideas. Some other people said new products, new services. And some people said, the incremental, you know, the little things that you can change in order to improve, be more efficient. Other people said things that you hate; this kind of*

*annoying thing that is there and you just have to change your mind to find a way to overcome that annoying stuff. (Service Improvement & Innovation Specialist)*

Shifting from the individual to the organizational level, the Head of Communication gave me another view of the broad spectrum of innovation for the organization:

*There are business models we need to look at. But then there is innovation in what we're doing and how we're approaching processes; we want clever stuff that is going to save us money, save us time, improve the relationships with the customer, customer satisfaction, employee morale, community engagement; so those are all the areas where we could potentially provide some frameworks for innovation or where innovation can happen in the business (Head of Marketing & Communications)*

However, I was at this point alerted. If innovation was to cover everything and if innovation was a goal for everyone, how was that translated in practice? The Global Director for Innovation and New Business explained his view of a bottom up emergence of innovation within the company and the challenges that could entail:

*This situation we're in now where we're trying to figure out... or where we leave to each unit and each manager basically to find out okay how can we translate the statement innovate every day to something that is meaningful for what we're doing here and there's not just one answer to that because it has to come from kind of the team itself depending on what they do, what kind of level of maturity they have and so on. So I think it's a very much bottom up approach.*

Indeed, a fundamental issue in understanding the organization's pursuit of ambidexterity was untangling the different perceptions about the nature of the tensions in different organizational groups. The following sections will present in detail how tensions of innovation and efficiency were manifested and managed at

two organizational levels (the operations/ middle management and the senior management level).

#### **4.2. Managing Tensions of Efficiency and Innovation: Middle management/ Operations**

In this section I will present the analysis of the first embedded case in Telco that covers the middle management and operational level of the organization. The key theme underlying the analysis is how innovation and efficiency tensions are manifested at this level of the organization and how organizational actors managed these. I will analyze the competing demands emerging at this level through both the internal push for maintaining efficiencies and pursuing innovation and the external demand for new and innovative solutions from customers. A key finding from the analysis at this level was the limited success of the formal organizational processes for innovation (Idea Boxes) and the emergence of a tacit mechanism for balancing tensions responding to pressures of strategic intent.

***Demands of efficiency and innovation at the operations/ middle management level.*** At this level of the organization middle management and operations employees were responsible for delivering complex professional services for the ICT sector. Maintaining a high level of efficiency was traditionally a key priority, as operational excellence was a high priority within everyday practice. Middle management and operations employees were continuously pushed for increasing the levels of efficiency through constant monitoring and tight targets.

*It certainly is a big priority (efficiency). We're constantly pushed to reduce the amount of time to that we take to prepare a quotation the booking time towards projects is about efficiency so as to make sure that*



*we don't have more people than we need. So there definitely is a push for efficiency. (Solutions Integration Engineer, Managed Services)*

Another colleague underlined the pursuit of efficiency as a measure of success within his group:

*Efficiency is I think it's one of the factors that determine how good we do. So in the KPIs, key performance indicators, efficiency comes rather high. So you cannot waste time. Every process has to be, you know, lean and new and, you know, efficiency is very high up. (Device Application Engineer, Managed Services)*

Within that level of the organization efficiency was a key priority. Efficiency monitoring processes were set so as to ensure that internal processes were streamlined and stripped from unnecessary costs.

*It's the time between getting an assignment and having the cost ready. It's the amount of hours that are spent doing that. It's the amount of reuse we have doing that. And then we can show to the accounting that we are obsessed about getting the biggest bang for their buck and that we are we are responsive and we are appropriately pricing most of the stuff. (Head of Design & Integration)*

At the same time, faced with intense competition and increasing demands from the customers, innovation emerged as a key theme within the organization as a way for delivering greater value to the customer and strengthening Telco's competitive position. Innovation was put forward as a key strategic priority for the whole organization, supported by the company mantra "Innovate every day" and an internal communications strategy evolving around the key message of "It begins with us". Through this organized attempt to build an innovation process, the top management team aimed at promoting employee engagement and making innovation a responsibility for all employees irrespective of hierarchy or domain. Innovation was now becoming a strategic priority of equal importance within an operating environment that was traditionally based on operational excellence.

*It is possible for big companies not to be innovative enough and get out and be killed because of that...So we should be scared of that. This is central to the long term of the whole of Telco. That's the sort of message that I think we need to be pushing more strongly rather than this is a nice thing to do. (Head of Design & Integration)*

Demands for both efficiency and innovation escalated as the organization was moving from a traditionally product based company to a more consultative based organization; a solutions provider. As profits for Telco were dropping, the organization underwent a vast restructuring that moved off shore many local operations (2011-2012). This meant that local offices (UK) were facing extra pressures of maintaining efficiencies but also justifying their higher operating cost. In that context innovation was put forward as a means for delivering value to customers, through a shift towards a more consultative selling approach.

*If you're in a high cost territory like in the U.K. you need to provide high value to justify your cost. And that's why consulting based services gives us that option. (Head of Design and Integration)*

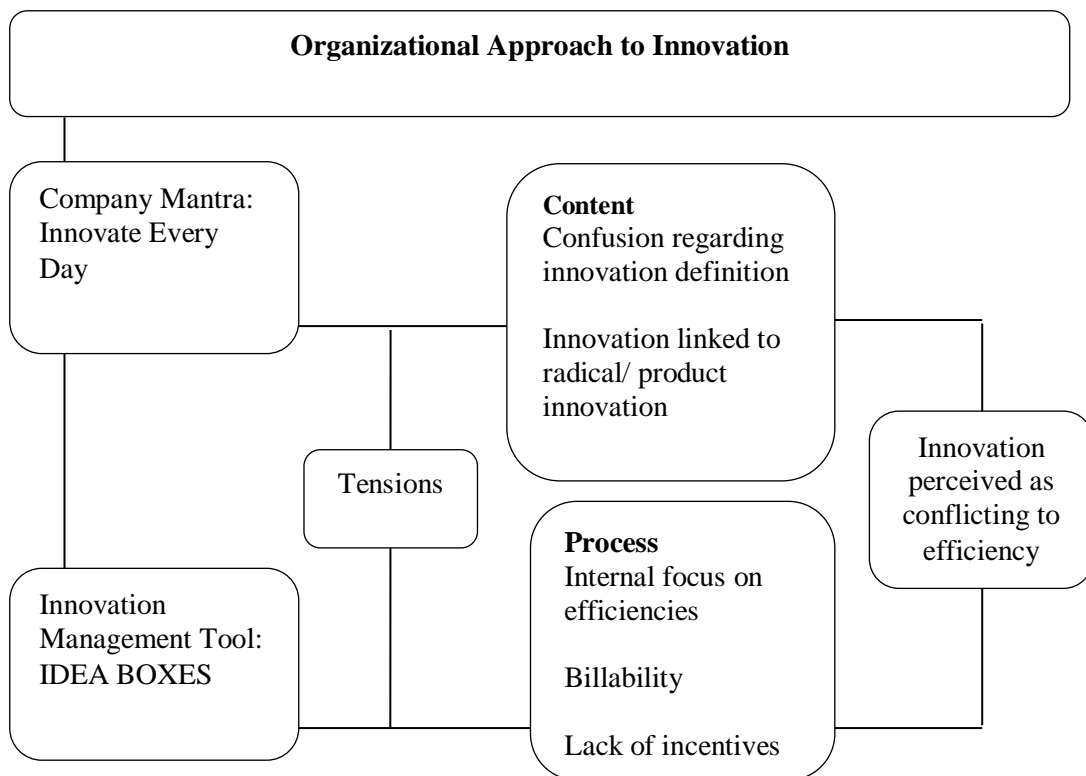
However, the simultaneous pursuit of innovation and efficiency was a newly introduced concept within managed services segment, one that posed a number of challenges for employees within an operational environment, in terms of translating what the strategy meant for them and finding the balance between efficiency and innovation.

*And the trick is for those units that are focusing on efficiency to figure out what does "innovate everyday" mean to us. Further improving processes for example, that is innovation; that's process innovation right. So there is no easy way to say that okay over here we're focusing on efficiency and over here they're innovating. On the other hand, in order to free up time and money to innovate, you need to be efficient over here so it's kind of a complex relationship here between efficiency on one hand and innovation and looking into new things on the other hand. So there's always*

*innovation in efficiency and there is efficiency in innovation. (Director New Business Development and Innovation)*

In that context, the organizational approach to innovation faced many internal barriers stemming from tensions of both process and content. The section below will analyze the sources of these tensions.

**Figure 4.1. Tensions of innovation & efficiency  
Operations/ middle management level**



### **Tension manifestations**

At this level of the organizations tensions of innovation and efficiency stemmed from two main areas: the lack of a clear definition of innovation (leading to multiple interpretations and confusion as to what type of innovation was demanded) and the introduction of an innovation management tool that was in conflict with the everyday reality of strict deadlines and increased efficiencies.

*Tensions of content: What does innovation mean?* Participants often referred to Telco as an “innovative organization”, one where “innovation is at the

heart of what we do” however there was no clear idea of what innovation was for Telco leading to a multiple interpretations and a surfacing feeling of confusion. The Head of Operational Excellence and Innovation at referred to innovation as “the biggest buzzword in the industry” whereas the Internal Communications Manager added:

*It’s difficult because of the...the whole...what is innovation, what does that mean to each person? It means something different. So, for example, some of the engineers here feel that innovation is a patent. It’s a brand new idea, it’s something physical, it’s a thing, it’s a machine, it’s...they’ve got a very concrete view of what they think innovation is.*

The lack of a clear definition of innovation at this level, led organizational actors to draw meanings of innovation from the rooted cultural values that were embedded in Telco’s identity as a technology leader. Telco’s strong tradition in technology and product development influenced perceptions of innovation as being primarily radical and technology driven discouraging employees who often felt intimidated by the sudden burden of “being innovative”. An operations manager explained:

*One of the problems that we have here is if you look at our business, if you say to people I need to innovate some of the ideas, they kind of go “I need to think of something radical, I need something radically different (Chief Operating Officer, Managed Services)*

This connection of innovation with radical innovations (new products or new service offerings) was perceived as contradictory to maintaining efficiencies within an operationally focused environment and raised further confusion in terms of the priorities one should follow.

*It’s very different, there’s operational excellence, which is about efficiency, and then you get the competing demand of innovation. You can’t say to me in an operation environment I want you to be operationally*

*excellent and focused on innovation. Okay, so what's my priority? (Head of Operational Excellence & Innovation)*

This tension in terms of the nature of innovation often led to frustration and singular focus towards efficiency as organizational actors felt far away from true innovation (“this is not R&D”, “we don’t build products”) and considered innovation as having little or no relevance to their working reality.

***Tensions of process.*** At the same time pressure of billable hours formed a very structured and goal focused working environment for this level of the organization. Idea Boxes was introduced as internal process for innovation ideas that would fall outside the scope of everyday work. However, ideas that were outside one’s everyday work, were much more demanding and time consuming, as one would need also need to make the necessary linkages and research in terms of the ideas’ usefulness and applicability.

*So you’re always welcome to put things in that are not within your current work area. The question is how much you’re able to then put the information around those in order to be able to make innovation successful... The benefits of it to the end user could be to the cost of the product, the efficiency of the product or something. (Design Manager)*

In that context the process for innovation through a complicated and time consuming tool was in contrast with the working reality at hand where employees had to follow a strict process of time reporting and every innovation related activity would have to be over and above working hours. Within this context, organizational actors perceived efficiency and innovation as incompatible since “innovate everyday” was in contrast to the organizational processes of billability in terms of accounting for one’s time and focus on efficiency.

*Managed service deals, they have to time-report every 15 minutes as to what customer they are working for. So it’s quite descriptive. They have set lunch breaks. They have set times when they can take their breaks...*

*And they do like a seven to seven shift, for example. So innovation is meant to be part and parcel of what you do, but because they time report, they find it very stressful. They said actually we need to time code to be able to do our innovation stuff too because they feel that they are under pressure, you know, to take 5 minutes to sit there and dream or come up with ideas. (Internal Communications Manager)*

The late response rate and the confusion around how this tool worked in practice was further discouraging factors.

*It's sort of like submitting a CV online, you know, everybody does it now but I hate submitting CV online because it's hard not to feel like it's just disappearing into the void. Similarly, you submit an idea online, some kind of just like, well, okay that it's going to sit there and no one is going to comment on it. (Solutions Integration Engineer)*

Further barriers to the use of the formal organizational process for innovation evolved around a lack of a supportive organizational context (incentives, culture, and supportive leadership). Interviewees underlined various organizational factors that were in conflict with a pursuit of innovation. Firstly, the lack of incentives was perceived as an indication that innovation was more of a risk taking activity. In fact middle management and operations employees were incentivized more towards efficiency than innovation.

*We have our annual IPM or performance review and we'll get graded on and our pay rises will be dependent on things like what percentage of hours do we bill against projects codes, what percentage of our time are we billing to project versus not... then people start to go I'm going to check the box because I may come up with a great idea but if I'm not billing that against project hours then I lose that on my next performance review and maybe I don't get a pay rise... so I may want to do something different but if it means I get less money for it, if it means I am not going to*

*get recognition I'm going to get a poor performance review, I'm probably not going to take that risk. (Solutions Integration Engineer)*

Organizational inertia in the form of routine rigidity was further leading to demotivation, as innovation was perceived to be coming against the traditional organizational processes for operational excellence that were embedded into the organizational culture.

*We're being told to innovate every day, but you've got your hands in handcuffs behind your back and even when those handcuffs are taken off, people just don't believe it and it's easier to keep your head down because nobody can be criticized for just following the standard ways of doing things, but I think people are just not so much afraid, they're just fed up with trying to do things and being criticized for doing it. (Account Director)*

In that context the lack of incentives and of a supportive organizational context that would enable flexibility and pursuit of differentiation created a hostile environment towards innovation.

*So if I say to you we're going to innovate, we're going to be the most innovative company in the managed services space, I need to provide you with the tools that can help you innovate...I need to remove the barriers that can help you innovate. If I'm not giving you any time to innovate, if I'm not giving you any budget, if I'm not giving you any dynamic environment to work in then the individual will just go "heard it all before"(Head of Operational Excellence & Innovation)*

The table below (Table 4.4.) elaborates on the tensions of process and content that were manifested at this level of the organization.

**Table 4.4. Tensions of innovation and efficiency: operations/ middle management.**

**Dimensions, themes, categories, and data**

Second-order themes and first-order categories	Representative Data
<b>Tensions of Content</b>	
<i>Lack of clear definition</i>	<p>So, it's meant to be part of everything we do every day. It's difficult because of the...the whole...what is innovation, what does that mean to each person? It means something different. So, for example, some of the engineers here feel that innovation is a patent. It's a brand new idea, it's something physical, it's a thing, it's a machine, it's...they've got a very concrete view of what they think innovation is and then you've got the other people who actually, well, I innovate every day because I change things because I actually get bored or I think that's faster or actually that would look better. So I change things all the time so that's my idea of innovation. It's the small little things that will make a difference, make things quicker or better or faster or...(Internal Communications Manager)</p> <p>Well, the only thing I would add is that I think it's important for... exactly... it sounds wrong but the definition of innovation is critical. And I think that one really strong outcome of things would be to... be to be able to identify what is innovative, not how to be innovative but what is innovation. And I don't think that's very well understood. (Design Manager)</p>
<i>Link to radical/ product innovation</i>	<p>Initially there was a view that innovation is...Apple innovates by creating the iPad so innovation is something big. (Device Application Engineer)</p> <p>The major problem with the company like this is when you say innovation you think it's, you know, creating new products, new base stations. (Device Application Engineer)</p> <p>I think a lot of people would feel an innovation is a grand scheme, something that has to be a massive change from the norm, something that's just nothing out there, it's completely new (Design Manager)</p> <p>One of the problems that we have here is if you look at our business, if you say to people I need to innovate some of the ideas, they kind of go "I need to think of something radical, I need something radically different".... That's a scare factor (Managed Services Chief Operating Officer)</p>



	<p>People think that they have to do something extra special to be innovative. That's what I think people think innovation is. You know, some of those things are amazing that we do, the big changes 3G, 4G, LTE, TV and those are great ideas, technology leadership is innovation in itself, but I'd like to see it on a much broader spectrum even the boring stuff. (Head of Marketing &amp; Communications)</p>
<i>Innovation as a scare factor</i>	<p>People I think are a bit scared with the word innovation. They think you know I have to be Albert Einstein (Innovation Program Manager)</p> <p>As I said, I think, in terms of innovation and invention people mistake the two so they feel intimidated (Internal Communications Manager)</p> <p>I think people feel intimidated because the definition of what innovation really is is so poor. (Design Manager)</p> <p>People, they feel that they are not geniuses and they are not very creative (Service Improvement &amp; Innovation Specialist)</p> <p>Some people are scared by the word innovation because they think it's something either very radical or it is very technological focused and it has to be an invention, (Head of Marketing &amp; Communications)</p>
<b>Tensions of Process</b>	
<i>Lack of Incentives</i>	<p>No, no incentive. It's actually their lives are easier if they avoid innovation and push back because it means somebody else is got to do it, not them. (Account Director)</p> <p>It's up to the employees. So at the moment there isn't an allocated budget or slot for employees. It's up to the employees to be proactive. (Device Application Engineer)</p> <p>I think that it has to be embraced at all levels and that's where having too much be tied down to metrics is tough because if all I care about is ticking the boxes of hours reported and so forth, I'm not going to risk it, I'm going to want to go simple and straight forward. If my performance review with my boss and his performance review with his boss is what you're doing that really is new and exciting and different, then there is an option for that. (Solutions Integration Engineer)</p> <p>There are too many people who are incentivized in the wrong way and they were incentivized against innovation. I think that a part of it is just being a big company, I think inherently makes you more risk averse because you got a lot more to lose and also again as I said you have people that have doing it one way for 40 years and not going to want to change (Solutions Integration Engineer)</p>

*Pressure of Billable hours*

You generally find in the managed service space that billability is the king. You work for Accenture, you work for any other business that provides the service, billability is king so that for 100% of the team needs to be billed to a customer. If it's not, then they start to look at efficiency. So if you look at our business here that is predominately 100% billable, what time do they have to innovate? So therefore you need to build then some time that allows them to innovate, otherwise all they will focus on is the day job. (Head of Operational Excellence & Innovation)

Everything is around time and budget right here, so you have to prove basically that you're working and not wasting company time. So when you come up with an innovation idea, there is budget allocated to you for investigating it. So if you work on it or if you've got physical time, if you work on it you can actually book to a separate budget that's measurable, you know, so and so people and so and so department book so much to innovation that's measurable and you are booking to you something so you are not wasting time (Device Application Engineer)

In the Telco model basically we have very strict targets on utilization and billability and these are costs that would have to be explicitly borne, which we may choose to do, but it's certainly not something that I could just decide to say okay my departments 10% on you go, no chance. We do not have the latitude to do that. These guys are, you know, if they are not billing the customer we are not getting revenue for it, we are not covering their cost. (Head of Design & Integration)

Every employee that works in managed services or pretty much in the whole company, they have to book their time every week. So you have a code, which is just where you booked your time. (Service Improvement & Innovation Specialist)

There's no time, so we don't set aside any time for it, we just hope our people will bother to go and put their ideas into this system... And to have engagement you have to have a culture of innovation and we don't have that. We do not have that at all because we work for the customer, priority is the customer, we are billable... you have to time report (Innovation Program Manager)

In the Telco model basically we have very strict targets on utilization and billability and these are costs that would have to be explicitly borne, which we may choose to do, but it's certainly not something that I could just decide to say okay my departments 10% on you go, no chance. We do not have the latitude to do that. These guys are, you know, if they are not billing the customer we are not getting revenue for it, we are not covering their cost. So it's more the difficult environment in which to do that. (Head of Design and Integration)

## **Tension Management. Working through the tension of efficiency and innovation**

Whereas the formal organizational process for innovation had limited success due to the lack of clear scope and supportive organizational context, another type of innovation was taking place within the middle management and operational level. This type of innovation emerged through the need to overcome internal tensions and confusion and was based on an interpretation of innovation in line with the operations group. In that context, innovation was at this level of the organization more narrowly defined, as any idea or process that would enhance efficiency.

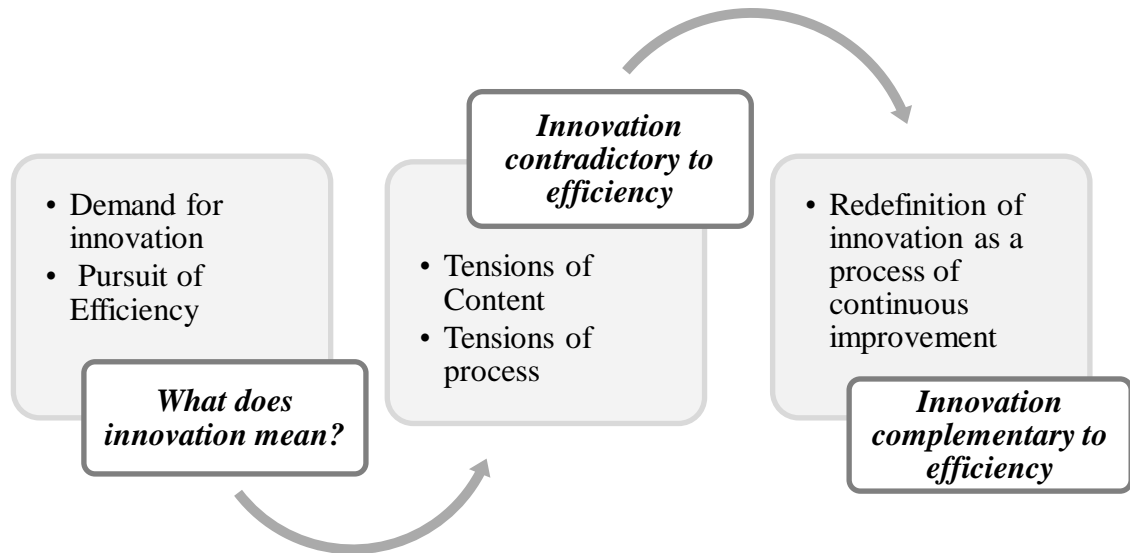
*We have to, you know, ingrain in people that innovation is anything new and creative. It doesn't have to be a new product. As an employee, you're not going to make the next 3G or LTE, so stop thinking that that's the barrier. Then the good innovations start coming in, and the small ones generally are the good ones (Device Application Engineer)*

The tension of pursuing innovation while maintaining efficiency was at this level resolved through transforming it into a more workable entity consistent with the actors' everyday work life, and based on the linkages between the two poles (Lewis, 2000; Andriopoulos & Lewis, 2009). Innovation in this context (mostly in the form of process innovation) was perceived as *complementary* to efficiency.

*They complement each other. Some of the best innovations I have seen are how people have chopped time off so they have said this takes four days, I can get it done in two days and yes, so they are totally complementing each other. I think people begin to understand that because the culture here is if it takes longer, you're not doing it right (Device Application Engineer, Managed Services)*

This process of working through the tension of efficiency and innovation is presented in the Figure 4.2. below:

**Figure 4.2. Working through the tensions of efficiency and innovation at the Operations/ Middle Management Level**



Innovation as a process of continuous improvement marked a shift from the traditional view of innovation as linked to technology and R&D. Rather than searching for entirely new offerings innovation was based on existing competencies for existing customers. This conceptualization of innovation was very much goal oriented, driven by the need to defend existing business by providing solutions to the customers that were both innovative and cost efficient. Innovation therefore was seen as a means to an end, as a tool towards operational excellence that was considered vital for defending existing business.

*I think again in terms of differentiating Telco from other competitors and in keeping us involved in the right levels within the customers we have to demonstrate, we have some thought leadership. I mean we have some innovation about how operations can work and how networks can be structured, etc. If you fall back from that position and you just do the products and you are selling boxes then you are treated as a product*

*company and you are not part of, you do not have a seat at the table and strategic discussions with the customer and that's really not what Telco wants to be. Telco wants to be a strategic partner therefore has to provide value to the customer. So innovation is central to this. (Head of Design and Integration Managed Services)*

This type of innovation in the form of continuous improvement was a key tenet within managed services contracts, expected by customers. At the same time continuous improvement also involved changes that could enhance internal efficiencies.

*So bringing back to innovation, you know, innovation is also about how do we do things, how do we become...how do we find ways to do...we inherited customer processes with those, multiple different ways of running a network, running a business, how do we get to one process or one set of tools that meets all those different customer needs, to make that work for the customers and for us (Chief Operations Officer)*

**Mode of Balancing.** Innovation in that context (mostly in the form of process innovation) was considered a means for increasing efficiency. This complementary relationship between continuous improvement and operational efficiency was integrated within everyday practice.

*So to make that work, it's not just through something called innovation scheme, which is a bit radical, standup, 'I've got a great idea' stuff. It's also through day-to-day and the way you work. It's a process of continuous improvement. And there is big leaps and small leaps but it's all new ideas incorporated and integrated and getting people working together to flush out the better ways of doing things to optimize things. (Chief Operating Officer)*

Viewing innovation as part and parcel of everyday work made it however difficult to define, capture and measure. In this context, most innovation taking place at this level was either tacit, or not considered worthy of communication.

*The engineers they're looking at problems all the time, they are trying to solve problems and they are the sort of people that will just fix it. ..Well, that's innovation straight away. They have the idea to innovate, they realized it and delivered it, but they haven't thought they needed to tell anyone because it fixes the issue and it gives them a bit more efficiency, and that's endemic that sort of thinking. (Head of Design and Integration)*

Table 4.5. below, offers further illustrative quotes of how innovation was perceived at this level, its perceived interrelationship with efficiency and the mode of balancing pursued.

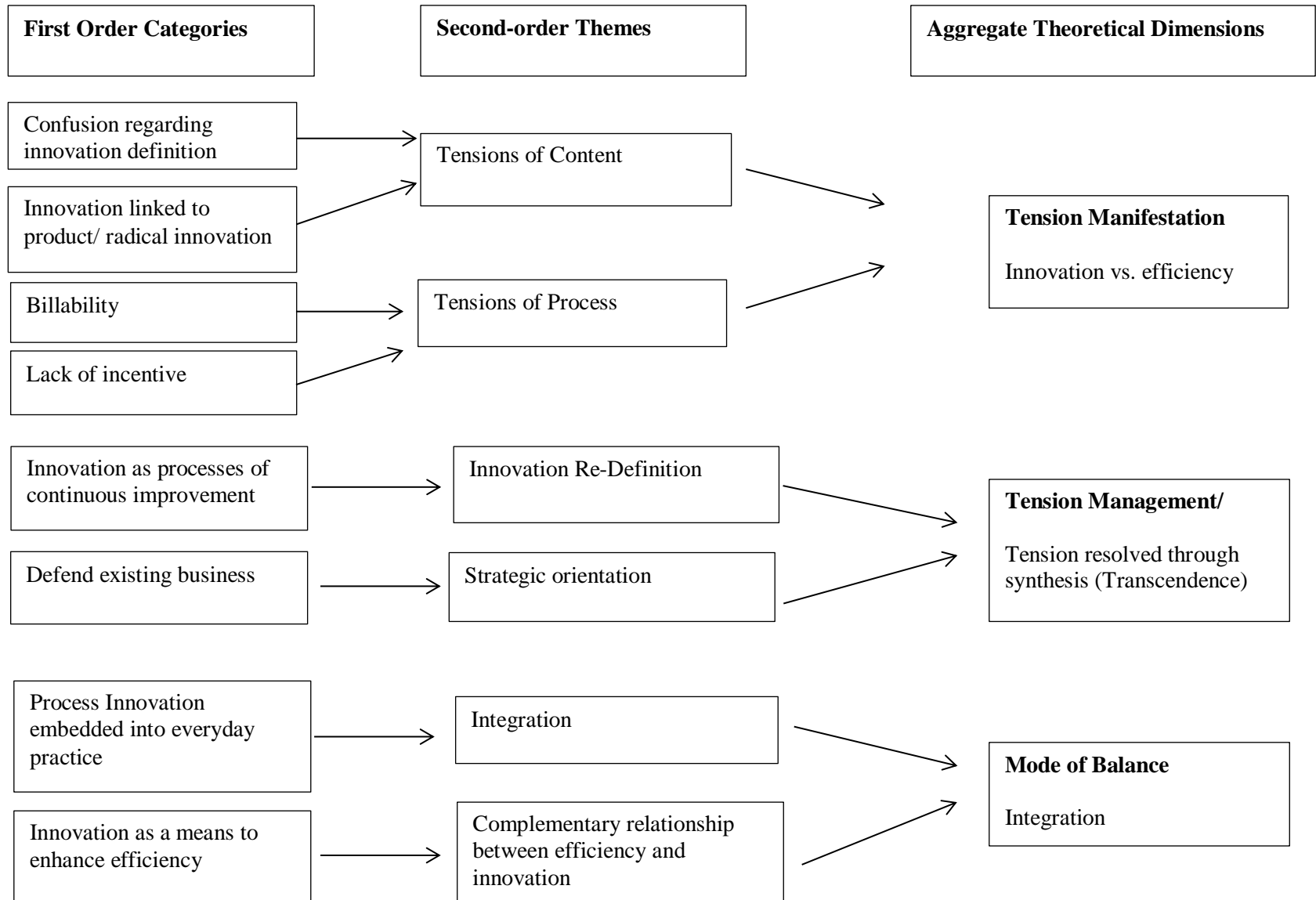
**Table 4.5. Innovation and Efficiency at the Operations/ Middle Management Level**

Second-order themes	First-order categories	Illustrative Quotes
<b>Strategic Orientation</b>	<i>Defend existing business</i>	<p>In terms of differentiating Telco from other competitors and in keeping us involved in the right levels within the customers we have to demonstrate that we have some innovation about how operations can work and how networks can be structured, etc. If you fall back from that position and you just do the products and you are selling boxes then you are treated as a product company and you are not part of, you do not have a seat at the table and strategic discussions with the customer and that's really not what Telco wants to be. Telco wants to be a strategic partner therefore has to provide value to the customer. So innovation is central to this. (Head of System Design and Integration)</p> <p>We have a very good market position; we have a lot of market share. But if we want to maintain that market share, we have to do thing differently and more cheaply, that's really the focus for the – for the delivery and management team at the moment. (Head of System Design and Integration)</p> <p>Typically, our business case will depend on doing some kind of transformation, some kind of change. Customers are typically on very old or very new systems and they are all on different things and they've done different customizations with different requirements. And we need to find our way through that into some sort of commonality that allows us to be efficient. (Chief Operating Officer)</p> <p>So efficiency is too narrow, but innovation delivers an improved business outcome. And a whole range of factors measures a business outcome. And if we just had efficiency and the customer got fed up and left us, that's not a very good option. Is it? So it's kind of getting that real balance in our business. (Chief Operating Officer)</p> <p>Is the business going to stop if we don't innovate? Yes, absolutely, completely stop. We will lose our market share. (Chief Operating Officer)</p> <p>So one of the things I noticed when I joined the company or joined this department was there were some relationship difficulties with our customers, internal customers and internal suppliers, and again we want to show that we have been addressing those. One way to address them is to make sure the people see that we are interested in their feedback and innovating... what we are doing to help them, you know, and I think that's a good message. (Head of System Design and Integration)</p>

<p><b>Perceived relationship between innovation and efficiency</b></p>	<p><i>Complementary</i></p>	<p>Innovation would be more or less the tool. Its like how can you become efficient? (Service Improvement &amp; Innovation Specialist)</p> <p>So, yes, they complement each other. Some of the best innovations I have seen are how people have chopped time off so they have said this takes four days, I can get it done in two days and yes, so they are totally complementing each other. It's not, I think people understand that because culture here is if it takes longer, you're not doing it right (Device Application Engineer)</p> <p>I mean you can certainly have innovations that increase efficiency... I mean obviously we have seen things where efficiency has been improved by innovation. This tool that I'm working on hopefully will make it more efficient because we can do a lot of freely, so I think innovation can push efficiency (Solutions Integration Engineer)</p> <p>For services business, (innovation) that's how you get efficiency (Chief Operating Officer)</p>
<p><b>Mode of Balancing</b></p>	<p><i>Integration</i></p>	<p>For instance, if you do your day job and you notice something wrong that no one else has noticed before and you try to change it that's still an innovation and we've had innovations where someone's looked at, you know, code, other people and save the customer and the company 100,000 pounds which is big money (Device Application Engineer)</p> <p>So the example I gave for the pre-sales you know first we innovate to fix a problem knowing that actually then you are not the most efficient; then once you got the problem fixed then we are doing the efficiency activity to drive out the cost, maybe innovate again... you want a background level of innovation happening all the time (Head of Design and Integration)</p> <p>We've got to change something fundamental and that change has to come from within. So it's actually all the changes and the things that we're doing and the improvements we're making and the value-add we bring to our customer... And there are big leaps and small leaps but it's all new ideas incorporated and integrated and getting people working together to flush out the better ways of doing things to optimize things. (Head of Design and Integration)</p> <p>The unit I work in I mean we're quite innovative in how we get something delivered to the customer. I mean I know it sounds very boring, but our outlook is when a customer says he wants something within reason, he should be given that and we are very innovative and agile when it comes to delivering that. Even though there might be a set of rules that say how you proceed, we look at it and if we don't like it, we'll write a new set of rules, create the standard, and follow this very fast. (Device Application Engineer)</p>



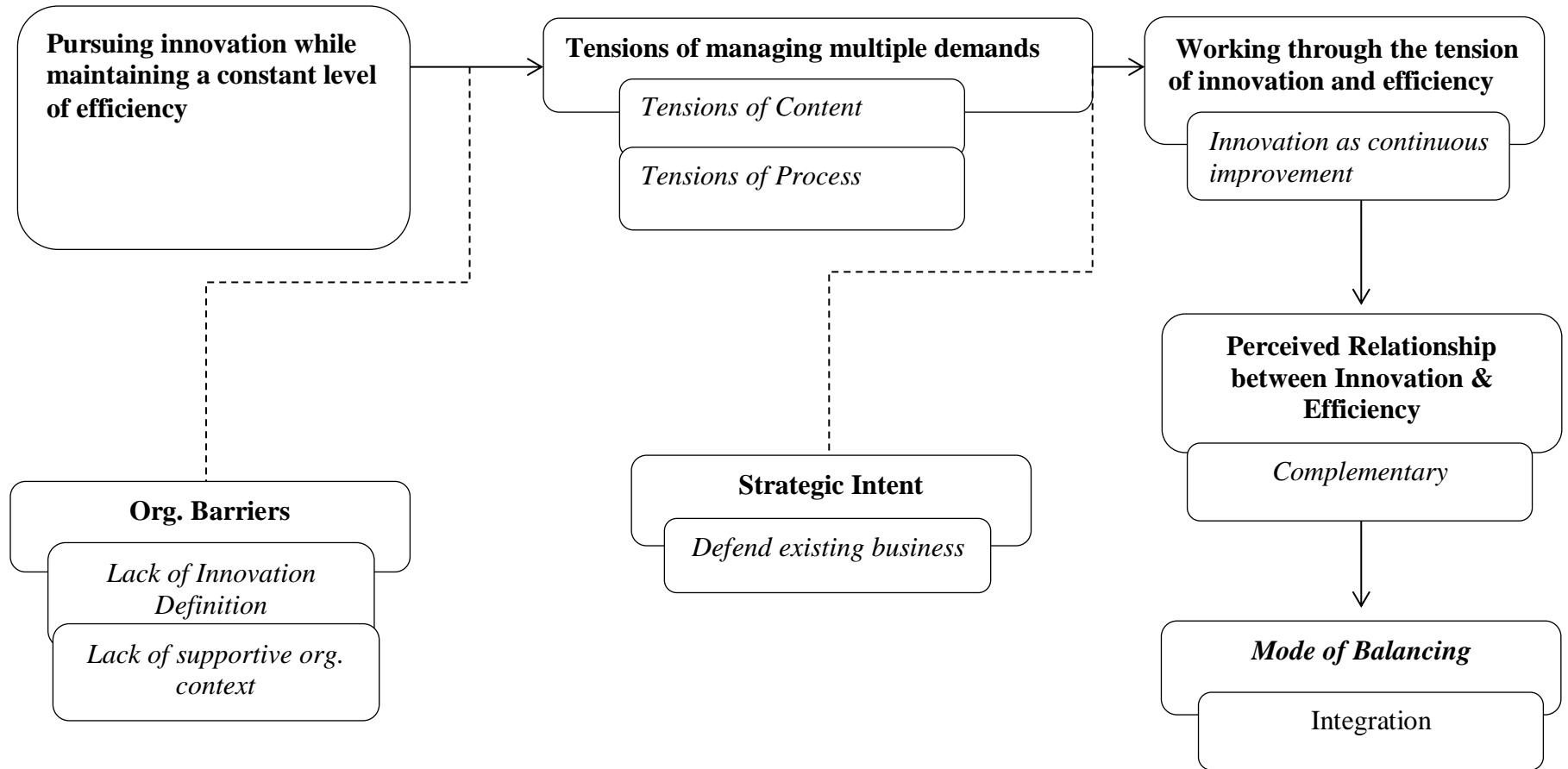
**Figure 4.3. Data Structure based on coding process (Case 1)**



## Summary

During discussions Telco employees often mentioned how innovation was becoming a top strategic priority; however a key issue emerging at this level was defining the scope and type of innovation that was now requested. A key insight emerging from the analysis therefore was the discrepancy between how actors discussed about innovation in general and the type of innovation that was relevant to their everyday practice. At a second level though, a tacit approach to managing both innovation and efficiency emerged. This coping mechanism stemmed from the need to respond to strategic imperatives of defending existing business and was very much goal oriented. In this context, innovation was perceived as a means for increasing efficiency. The conceptualization of innovation as a process of continuous improvement, embedded within everyday work, was driven by the need of middle management and operations employees to respond to growing customer demands and be competitive. We see therefore a bottom up rather than a top-down process for defining innovation, for translating this strategic goal and accomplishing it. Both activities were considered complementary and were embedded within everyday practice. In that way the tension of efficiency and innovation was managed through a new conceptualization that was based on the links between the two sides of the duality tension. The figure below (Figure 4.4.) summarizes key findings from this level and their interconnections.

**Figure 4.4 Managing tensions of innovation and efficiency. operations/ middle management- Analytical Diagram**



### **4.3. Managing tensions of efficiency and innovation: senior management**

Similarly to the operations and middle management level, analysis at the senior management level led to the identification of different approaches to managing the efficiency and innovation tension, based on strategic intent. Two main approaches emerged based on innovation as either a) growing existing business or b) exploring new opportunities for growth. These conceptualizations led to different coping mechanisms: a) temporal separation (shifting) between periods of efficiency and innovation and b) structural separation through parallel structures following a process of what is here defined as “controlled exploration”. This section presents the analysis on the different tensions that emerged from the simultaneous pursuit of innovation and efficiency and the coping mechanisms that were used at each case.

#### **Demands for innovation and efficiency at the senior management level.**

Whereas the demand for innovation within operations and middle management level was a newly introduced concept for senior management innovation was a key strategic priority, linked to the future and healthy growth of the business.

*As a company we are one that has continued to adapt and it's part of our history and if you think about that in terms of the market i.e. we're constantly driving standards, we're constantly driving new things, we're looking at new areas of the market. So things like a TV, for example, where we see explosion in IPTV and the way that people use and watch television. We predicted that two or three years ago or more and then acquired companies two or three years ago, which enable us to ride the next wave. (Head of Marketing and Communications)*

However innovation at the senior echelons of the organization was much wider in scope.

*So we're now looking what's the next thing, but I would say that's innovation at the front end what are we doing, why are we here, who are we serving, what are our customers, and how are we evolving aside of business and that would also include are we looking into new segments like vertical markets, which verticals? Government, utilities... (Customer Unit Head, UK-Ireland)*

Similarly to the operations and middle management level, analysis at the senior management level reveals different approaches to managing the efficiency and innovation tension, based on different conceptualizations of innovation. Two main type of innovation emerged from the analysis at the senior management level: innovation related to growing existing business and exploring new opportunities outside the current scope of operations.

#### **4.3.1. Innovation as growing existing business**

At this level there was a higher level of complexity as the aim was that new organizational configurations, or new knowledge, would be adapted to growing business with existing customers and markets. This approach to innovation was mostly associated with a notion of continuous change through service improvement or business model innovation that managers described as key for growing existing business and responding to escalating pressures of competition<sup>12</sup>.

*I think innovation in my part of the business is doing more for the customer than you are contracted to do. So a lot of customers say to us you're great at delivering the service, you know, you meet your SLA<sup>13</sup>; you do everything you say, now what? You know, do some of that innovation stuff. (Vice President, Managed Services)*

This approach to innovation was mostly linked with a notion of continuous

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<sup>12</sup> Markides, C. (2006), Disruptive Innovation: In Need of Better Theory. *Journal of Product Innovation Management*, 23: 19–25

<sup>13</sup> Service-Level Agreement usually refers to the agreed by the contract time of delivery

*change*, contrary to continuous *improvement* that characterized innovation at the operations/ middle management level. Indeed, the focus on growth through business model or service innovation was in some ways conflicting with the interpretation of innovation as the pursuit of efficiency at the operational level:

*Growth in the market currently is hard. When our Chief Executive stood up in January to all of us at the global conference and said, all I want this year is three things—growth, growth and growth; that was it. So you can read into that what you want. He does not want profit. We are actually quite good at generating profit. He does not want cost control because we are actually quite good at that. What he wants to see is the top revenues growing because if we are not careful we will fall into the trap of continuing to deliver good returns to our shareholders by continually cutting costs and not growing or buying back our shares or doing something like that so what he wants is growth, real growth. That's the biggest challenge. Innovation can help that without a shadow of a doubt. (Vice President - Managed Services & Outsourcing)*

At this level the focus was not to provide incremental, everyday improvements but introducing new processes or business models based on the reconfiguration of existing competencies or through the exploration of new opportunities for growth.

*Innovation, I am talking about, is really thinking outside the box, not a day-to-day problem that you are trying to use an innovative idea to get around, but it's more about looking at the customer's infrastructure from a distance and trying to come up with ways to make the infrastructure run faster and quicker, better, cheaper, more efficiently by investing in tools or equipment or infrastructure. (Vice President Managed Services)*

In this context reconfiguring competencies and organizational models was considered *conflicting* to maintaining focus and pursuing efficiency.

*So lots of pressure on us, you know... it's how can we innovate further to squeeze out efficiency from that, and I guess that's for innovation efficiency*

*are mixed together in that one, I mean how can we become more efficient by doing new things as well, so I think that's the big area for us together with new business models. (Customer Unit Head)*

Table 4.6. below, offers further illustrative quotes of how innovation was perceived at this level, the strategic orientation at this level of the organization and the perceived relationship between innovation and efficiency .

**Table 4.6. Managing tensions of innovation and efficiency at the senior management level (a).**

Second-order themes	First-order categories	Illustrative Quotes
<b>Innovation Definition</b>	<i>Reconfiguring existing competencies or exploring new competencies so as to expand business with existing customers in current markets</i>	<p>Innovation, is really thinking outside the box, not a day-to-day problem but more about looking at the customer's infrastructure from a distance and trying to come up with ways to make the infrastructure run faster and quicker, better, cheaper, more efficiently by investing in tools or equipment or whatever...(Vice President, Managed Services)</p> <p>Knowing what's happening in the market understanding what's actually going on, understanding what people's problems are, and the problems we're trying to fix. Internally navel-gazing innovation doesn't work. (Customer Unit Head, UK- Ireland)</p> <p>That's innovation in our part of the business because we don't make a product. We don't have anything that you can touch or feel, it is all fluff, and it's all fresh air. It's got to be taking ideas to the customers to say this is what we can do for you; this is how we can do it. (Vice President, Managed Services)</p>
<b>Strategic Intent</b>	<i>Growing existing business</i>	<p>What's coming down the road, how does Telco survive in the next era, how do we innovate on the business model side to survive? Customers have a number of challenges and what does that mean for the operators? So they look at new models like network sharing, which we've seen in the UK where 3 and T-Mobile built a joint network. (Head of Marketing and Communications)</p> <p>You need to be very innovative in the way that you develop your solutions to satisfy the requirements with the customers. If you're not innovative; and you're not efficient in developing that innovation or efficient managing it, then they're not going to succeed. All you're going to effectively do is commoditize your own product base and your frond base is not going to expand. (Director Strategy &amp; Business Development)</p> <p>I think for us it's around customer's want to be brought new ideas and what we should do more of is just proactively, if we are running an infrastructure for a customer we are the people that know it the best because we're running it so we should be taking them an idea every month to say look we're running this infrastructure, we've noticed if we do this, this and this, we can run it better. (Vice President Managed Services)</p>



<p><b>Relationship with Efficiency</b></p>	<p><i>Conflicting</i></p>	<p>It is a paradox. I view it every day in my work. It's how I call it the short-term goal and the long-term goal; there is always a conflict there. When profitability is under pressure you focus on efficiency and not so much innovation and that's what we are struggling with now (Manager Strategy &amp; Regulatory Affairs)</p> <p>I think sometimes, if you're too focused on efficiency it's hard to think of something new. So I mean I think, if you're struggling on profitability and you want to make things more efficient and then it's hard to think of the next new idea (Customer Unit Head, UK- Ireland)</p> <p>Well, I think innovation is creating something new... for me and then efficiency is making what you have work better. I think the danger is I think if ...efficiency won't really give you growth, it will make things more... work better to get greater profitability something like that, but innovation drives growth for me (Customer Unit Head, UK- Ireland)</p>
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## **Manifestation of tensions**

Senior managers faced with the task of growing existing business described the relationship between efficiency and innovation as conflicting, based on scarce resources and the need for different capabilities to pursue each goal.

***Holding both a present and a future orientation.*** At this level the tension between innovation and efficiency was based on having both a present and a future orientation, competing on the present but having an eye on the future in terms of growing the existing business (Abell, 1999). This dual orientation was particularly challenging as this zooming in and out depended upon manager's taking a necessary distance from everyday operations that would allow them to explore possible opportunities for the future. Contrary to continuous improvements embedded into everyday practice, as seen in the middle management and operations level, this type of innovation required for managers to "take a step back" and "think out of the box". However the process of innovation, described as exploring a situation from a distance, was in conflict with everyday operations that followed tight processes for maintaining internal efficiencies:

*If you're too focused on the present then the first thing that will get dropped will be any form of innovation, you know, because you're on the treadmill and the process says what should cost this week and what should cost next week and the week after, don't give me any of that innovation shit just get on with doing what you're supposed to. (Vice President Managed Services)*

This central tension between short and long-term orientation was manifested as a number of sub-tensions that derived from the need to respond to demands from multiple stakeholders. These were:

- a. Balancing proactiveness and reactivity (in Telco's relationship with the customers)

- b. Dealing with both structure and freedom (in managing the internal demands for both innovation and efficiency)
- c. Managing the relationship between predictability and uncertainty (in terms of gaining trust and credibility within the organization in order to justify the different resource allocation or investment for innovation and accomplishing the necessary changes).

***Balancing proactiveness and reactiveness.*** One of Telco's core competencies was its strong reputation of being a solid and credible partner that would respond to customer needs through a high quality level of services and products. "Professionalism", one of the key organizational values, reflected this notion of never letting down customers; of trying to be reliable and solid, of always delivering. However this led to Telco's approach to customers being described as largely reactive. Telco would deliver on time, or respond and solve a customer's problem fast and effectively but within a highly volatile environment, where competition was rising senior managers feared that this was no longer enough.

*In today's climate the one thing you've got to do is make the customers absolutely delighted; otherwise they will go somewhere else. (Vice President Managed Services)*

In that context, balancing a need for both a proactive and a reactive approach towards the customer was negatively influenced by the focus on efficiency and short term goals. Lack of time, resources and flexibility around managing a project where the key sources of tension around the need for both proactiveness and reactiveness:

*I am sure everybody says, no we're really innovative, we have great ideas and we do this. I think when it comes down to it, a lot of it's around organic growth that customers are looking to give you orders for stuff*

*anyway. Now I say that in a not very nice way because they have to ask us, we don't offer them. I mean we always say we don't want to wait for an RFQ, you know a request for quote. We always say no we need to be proactive or we need to work with the customer and fill their requirements and get in before the RFQ. Whenever we try to do that it's impossible because all the processes are built around right, you've reviewed the RFQ here is the toll gate number one and then two weeks later there is toll gate number two and then here we say well actually we're doing a proactive proposal for a customer, but most people say "well you know I've got RFQs to work on, we'll get around to that later". (Vice President Managed Services)*

At the same time, a lack of a customer centric approach was a further barrier to proactiveness:

*People fail to realize that at the end of the day it's the customer buying things that pays their wages and so they should adapt what they're doing to meet the customer needs rather than saying, we're following the Telco processes and that's what you find at the moment. People think that the Telco processes are more important than what customers actually want. (Account Director)*

Instilling this sense of proactiveness to an organization that was structured around responding to customer demands generated a new tension for managers; one that involved the internal processes through which this dual demand could be met.

*So we have got contracts and we are contracted to deliver something for a customer. Nowhere on that delivery track is anything that says innovation or good ideas. So do we have anybody in our organization who is responsible for clever ideas or innovation or increasing the customer's experience? Not really. It falls down to a few people that have a few good ideas that may or may not have a bit of spare time, may or may not have a bit of resources so it doesn't really fit into the sort of DNA of the company. (Vice President Managed Services)*

*Dealing with both structure and freedom.* As Telco's heavily processed and financially driven structure was primarily organized around responding to contractual obligations this structure was in conflict with the necessary space for creative thinking that would enhance innovation.

*I think the very rigorous structures that are in place are diametrically opposed to being fast and responsive. You know we got an organization set in place that could build the space shuttle and it would be perfect for that because it's a long term plan that you know what you're going for and it requires everything to be perfect and everything to be accurate (Account Director)*

This tension between structure and freedom was expressed as one of the most difficult tasks for senior managers at that level as they felt the responsibility of creating an environment for innovation, empowering lower level employees without pushing a top-down demand.

*I think the whole company in this country certainly is built around processes that satisfy a customer's requirement and it's hard to build innovation into a process because by having a process you've almost stifled the innovation on day one. You wanted to be creative and thoughtful as opposed to this is "step one, everyone think for 10 minutes, step two everybody write it down, step three" .... You know what I mean? (Vice President Managed Services)*

Building a framework for innovation was described as helping individuals to think outside the box by thinking in other boxes; therefore providing a framework that could guide innovation without stifling it.

*It's this whole thing, you know, think outside the box. Well, a lot of people have a struggle with this and when they draw a box and they look outside of it, it's a very wide blank space and what he was encouraging people to do was to think in other boxes. I think it's the same with innovation is what kind of frameworks can we provide which helps people believe that yes*

*they can have an impact on their job, but also without putting pressure on people. (Head of Marketing & Communications)*

***Managing the relationship between predictability and uncertainty.***

Another source of tension for senior managers was gaining legitimacy within the organization in order to justify the different resource allocation or investment for innovation and bring the necessary changes. At this level tensions emerged from the conflict between the perception of guaranteed returns from the focus on efficiency and the opposing force of unpredictability of innovation investment. In order to manage the risk of innovation, senior managers would have to go through a lengthy process of demonstrating the business value of an idea, persuading the traditional parts of the organization and be held personally responsible for any risk that could incur. In that context exploring an innovative idea and committing resources to it was considered more of a risk no one was willing to take than a legitimate strategic opportunity.

*So, the classic problem for innovation is how you quantify your return on investment ahead of time. And it's very difficult for us to allocate money to areas that are not directly co-related to a tangible measurable, you know, benefit. So innovation in terms of stand-alone funded innovation has suffered (Head of Design and Integration)*

This focus on pursuing efficiencies created a straightjacket that senior managers could not easily escape from:

*All our accounting rules are well audited. There is nowhere to hide anything. So if you do some improvement work as part of a delivery project, it's part of the project, you know, it's part of the costs of running the business. If you want to do anything else in the wider company, it's going to cost you; it's visible. And when you're in a company like Telco the OPEX is going to be monitored by shareholders and you know critiqued by analysts, investors... The fingers will be pointed, it's pretty clear (Head of Marketing & Communications)*

The following table summarizes the key tensions of innovation and efficiency emerging at the senior management level from the pursuit of growing existing business.

**Table 4.7. Innovation-efficiency tensions at senior management level  
(Growing existing business)**

<b>Core Tension</b>	
<b>Present- Future orientation</b>	<p>If you're too focused on the present then the first thing that will get dropped will be any form of innovation, you know, because you're on the treadmill and the process says what should cost this week and what should cost next week and the week after, don't give me any of that innovation shit just get on with doing what you're supposed to. (Vice President Managed Services)</p> <p>It is a paradox. I view it every day in my work. It's how I call it the short-term goal and the long-term goal; there is always a conflict there. When profitability is under pressure you focus on efficiency and not so much innovation and that's what we are struggling with now (Manager Strategy &amp; Regulatory Affairs)</p> <p>I absolutely believe that unless we do innovation, short term, you might save a few quid, short-term you might meet a few goals but long-term I think you're dead. And I think if you – if you look at innovation as a short-term thing, again, I think you're – you're fooling yourself. (Vice President Managed Services)</p>
<b>Unfolding Tensions</b>	
<b>Predictability Vs. Uncertainty</b>	<p>The interesting point is how do you balance the risk against innovation and how do you balance the efficiency against innovation because innovation implies you have a failure rate. You have things that do not work and that costs money and time so how do you buy yourself space to innovate within those constraints. (Director Strategy &amp; Business Development)</p> <p>The costs are monitored to the nearest pound, penny, and innovation you can't easily put a return on it. So our structure doesn't promote that innovative growth because it's a lot of investment for no guaranteed return. (Vice President Managed Services)</p> <p>If my boss came to me and said, would you like to hire two people and gamble your target on innovation, I'd say yeah absolutely no problem; hire them now because I believe in it. Will he ever say that to me? I doubt it, I doubt it very much. I would have to go to him with a pretty robust case and guarantee him some sort of return on his investment because he has a number of, we call it golden tickets. You can hire someone into managed services to sell managed services hopefully successfully or you can hire someone into mobile broadband to sell base stations or you can use it to hire someone</p>

	<p>called innovation and business development that may or may not deliver something over a long period of time and if you have only got one golden ticket you want to spend it where you are going to get the best return. (Vice President Managed Services)</p>
<p><b>Proactive-Reactive Approach</b></p>	<p>It's got to be taking ideas to the customers to say this is what we can do for you; this is how we can do it. Well, I think that's what we should be doing more of, but I don't think we are not doing enough of that at the moment. At the moment, we're very reactive to problems so you know a light goes red, we send the bloke out and he fixes something, another one goes red, they go somewhere else and fix it. Whereas what we're not very good at is saying well why do these lights keep going red, how do we stop them going red? (Vice President Managed Services)</p> <p>I think for us it's around customer's want to be brought new ideas and what we should do more of is just proactively, if we are running an infrastructure for a customer we are the people that know it the best because we're running it so we should be taking them an idea every month to say look we're running this infrastructure, we've noticed if we do this, this and this, we can run it better. I think that's innovation in our part of the business. It's just taking good ideas to the customer. (Vice President Managed Services)</p>
<p><b>Structure-Freedom</b></p>	<p>I think the whole company in this country certainly is built around processes that satisfy a customer's requirement and it's hard to build innovation into a process because by having a process you've almost stifled the innovation on day one. You wanted to be creative and thoughtful as opposed to this is "step one, everyone think for 10 minutes, step two everybody write it down, step three" You know what I mean? (Vice President Managed Services)</p> <p>So we first try and put a structure around it, and I think again it's about getting that balance between you know structure and also bit of freedom as well because, you know, we're an engineering company at heart with lots of processes, and I kind of get a bit nervous about too much structure and innovation, you know, I don't think you know structure and innovation soon becomes into just talking shops. So I think it's about creating that kind of culture, that environment where people come with ideas and say let's go and try it and that'd be more entrepreneurial a bit more that type of idea. So yeah a mix of both, a mix of both.(Customer Unit Head)</p> <p>Coordinated and effective, not hampered and micromanaged ... how do you empower it in the right way. That's the challenge (Head of Marketing &amp; Communications)</p>

## Tension Management

*Mode of Balancing.* Senior managers who pursued innovation activities within an efficiency-oriented environment managed the tensions between the



opposing processes through temporal separation, locating efficiency and innovation in different time frames (periods of focus on efficiency followed by periods of higher focus and investment on innovation). This approach to managing tensions was not aiming at eliminating tensions, but instead revealed an approach to holding the paradox open, recognizing both ends of the polarity as equally important. In that way, managers were able to shift between different ends of the polarity according to context.

*I think it's all about balance and sometimes you have to lean more to one way than the other. I mean you got to have that kind of efficiency in order to give you the chance to drive something sustainable. And at the same time, you know, you need to focus on innovation so you're probably doing different pockets in different times (Customer Unit Head)*

The process of implementation was also described as sequential (brainstorming, selecting, implementing).

*So I don't think we'd ever be in a position where we'd just be willy-nilly changing our day-to-day deliveries just because someone's had a great idea. You know, one of the benefits of having a process is they can work to your advantage. So I think we can innovate and come up with loads and loads of ideas, pick the top two or three and implement them, become more efficient, and you know it's like a circle, isn't it, you know (Vice President Managed Services)*

At the same time, this sequential process was also influenced by broader organizational constraints, such as resource allocation and corporate strategy.

*It all happens in cycles. I mean looking at the Netherlands, which I know best, there were times where there was some budget available for long-term investment, for innovation and then suddenly when the crisis hit, somebody said we cut everything. So it's either running or standing still. In cycles. Sometimes there is a willingness to invest a lot and sometimes there is willingness to invest nothing. So initiatives get killed and everything you have invested in is gone. And that is a pity but this is what*

*business is like. It's difficult (Regional Manager Strategy and Regulatory Affairs)*

The importance of innovation at this level was also highlighted by how organizational actors at this level were discussing innovation as part of their managerial responsibility. Managers considered having both a short and a long-term orientation a matter of managerial accountability.

*You know, we lose sight too much of the simple things about business. So I think you should go back to those simple things and then as a manager you never let your eye on both of them and sometimes you might be turning too hard on efficiency and you need to push on innovation, but that's the kind of, turning the dials and I think that's the management responsibility and skills, to be honest, that's where it comes down to ... (Customer Unit Head)*

At the same time they perceived their role as key for setting the good example for the whole of the organization and also translating what innovation means and how it can be achieved.

*I think if managers don't do it then no one else will because, you know, you feel a bit cheated and I think there's probably have been cases as well in the past where those things have happened. So I think it's everyone's responsibility and accountability in the company. I think it has to start with the managers otherwise it's wrong for us to want something you don't want to do yourself (Customer Unit Head)*

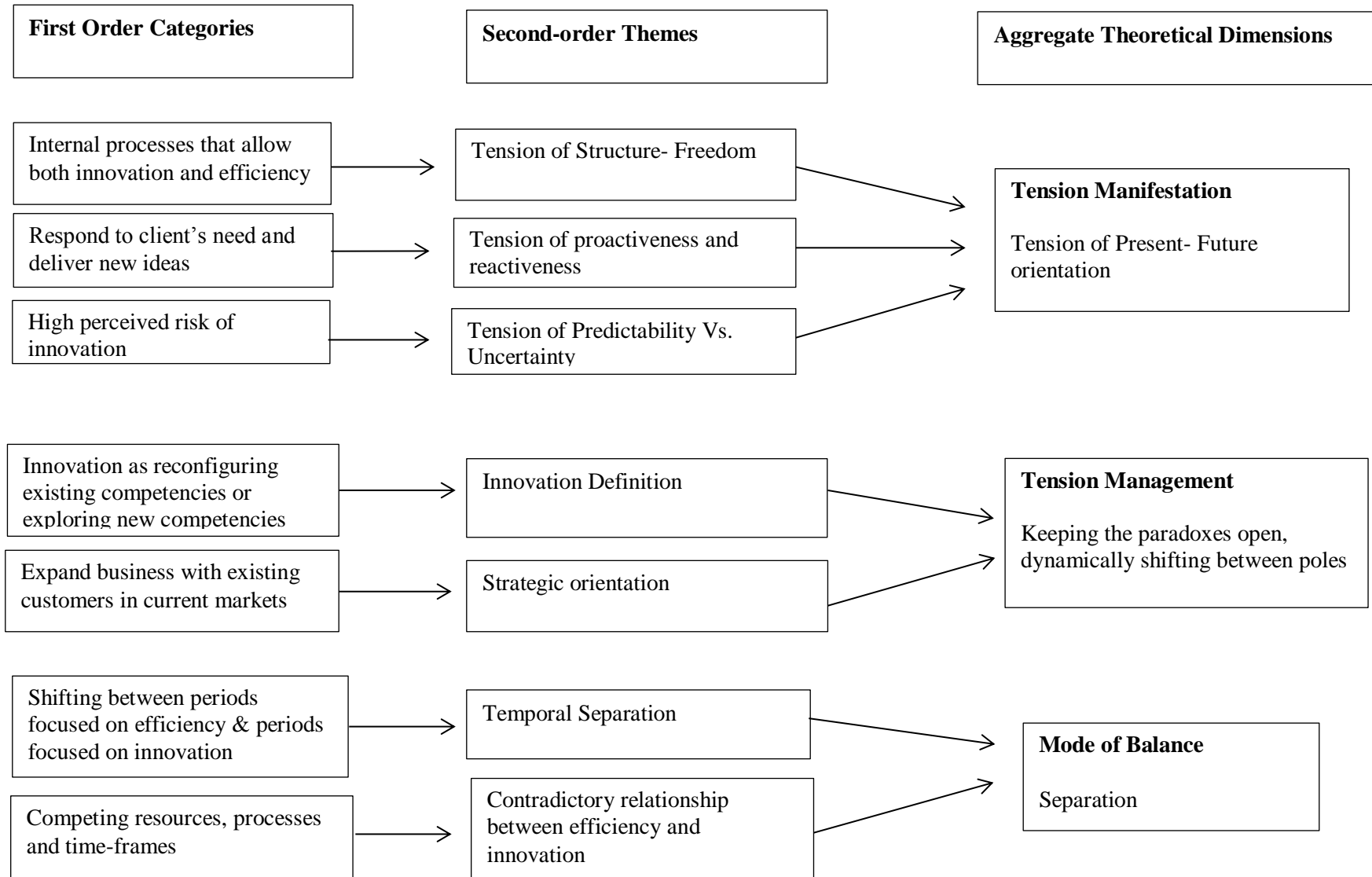
The table below summarizes the mode of balancing that was followed at this level between innovation and efficiency demands.

**Table 4.8. Mode of balancing Innovation-Efficiency tensions at senior management level (a)**

<p><i>Temporal separation</i></p>	<p>I think it's all about balance and sometimes you have to lean more to one way than the other. I think that depends on how I push, I mean you got to have that kind of efficiency and drive that... you need that in order to give you the chance to drive something sustainable. And at the same time, you know, you need to focus on innovation so you're probably doing different pockets in different time (Customer Unit Head)</p> <p>It all happens in cycles...there were times where there was some budget available for long-term investment, for innovation and then suddenly when the crisis hit, somebody said we cut everything. So it's either running or standing still. In cycles. (Manager Strategy &amp; Regulatory Affairs)</p> <p>I've a core strategy every year, we have two off-sites every year with my management team to talk about strategy, which is a bit more, okay, let's look what happened in the market and then let's more creative sort of ideas, what could we do, that's one thing. Then we have, we decided what the strategy is going to be and then we have a quarterly review to say on bit of a particular manager that's saying about okay what's happening in the market, is that things that we see, we could do, so I guess that's the way that we try and manage it. (Director Strategy &amp; Business Development)</p>
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Resuming on the main arguments so far the Figure below (Figure 4.5.) presents how data is structured based on the coding process of analysis.

**Figure 4.5. Data structure based on coding process (Case 2a)**



## **Barriers to innovation and the need for a supportive organizational context**

Innovation was a key theme yet it seemed that there was a disconnection between the strategic direction and senior managers' ability for implementation due to a perceived lack of organizational alignment towards this new strategic direction.

*A colleague of mine is an Account Manager for new accounts. So he for example has to deal with developing the energy sector as a new account. But when can sell something more easily to another customer he will do that, it's better for his bonus. (Manager Strategy & Regulatory Affairs)*

Incentives for senior managers were still based on traditional processes of meeting short term efficiency targets; resource allocation had to go through a long process of approval and was considered a risky endeavor; internal processes did not allow for any flexibility or moderation. Within an organizational environment that was heavily process-led and financially driven senior managers played a key role in pursuing innovations whose returns were less certain and more remote in time.

*A lot of people don't believe that they will receive the necessary benefits.... People work 12-hour days, it's very – it's very hard to develop an idea. If it that requires you to expend a couple of hours extra to develop those ideas. And if people don't see the benefit of doing that, then they're not going to do it. (Director Strategy & Business Development)*

A senior manager described his experience in promoting an initiative on innovation within his department as one of “having to rob time” in order to see it through after many months of planning:

*I think there are some innovations going on at the moment and one really good one in managed services, but it's been really, really hard to get that off the ground, but fingers crossed, we are about nine months in and we have got a pretty robust solution out for the customer. But again that's a brilliant solution sponsored by me, but everybody that's been working on it*

*has had other things to do so the progress has been very jerky because people get pulled off onto other bids and they finish this bid, I'll do a bit, it a transmission solution we're working on. But it's been very stop, start, stop, start because everyone's busy on other things. So it's been sort of robbing a bit of time from here and robbing a bit of time from there. So it's quite tough. (Vice President Managed Services)*

Again here innovation was not perceived as stemming through the Idea Boxes but rather through every day work and culture.

*I mean I would say to be honest we have things like innovation board where people could present ideas and of course it's formal process for innovation and the business units around technology, but I think it's more to do with the culture to be honest. I think sometimes process around it can make it a bit definitely boring whereas really innovation comes from again people trying to fix problems (Customer Unit Head)*

Pursuing new ideas, however, also faced the obstacle of breaking down traditional barriers between different organizational segments; especially in cases where more than one part of the organization needed to collaborate for implementing a new idea. In those cases, collaborations often stumbled upon the barriers of co-ordination and equally dividing responsibilities.

*Sometimes something that is innovative usually does not fit in the existing structure and that is another difficulty. For example this machine to machine communication is something that relates to more product areas, so you cannot fit it in only one product area, you cannot say this person is responsible, so you need to make sure you divide responsibility within groups that they work together and that is not always easy. So hierarchy and then silos and internal politics are internal barriers. (Manager Strategy & Regulatory Affairs)*

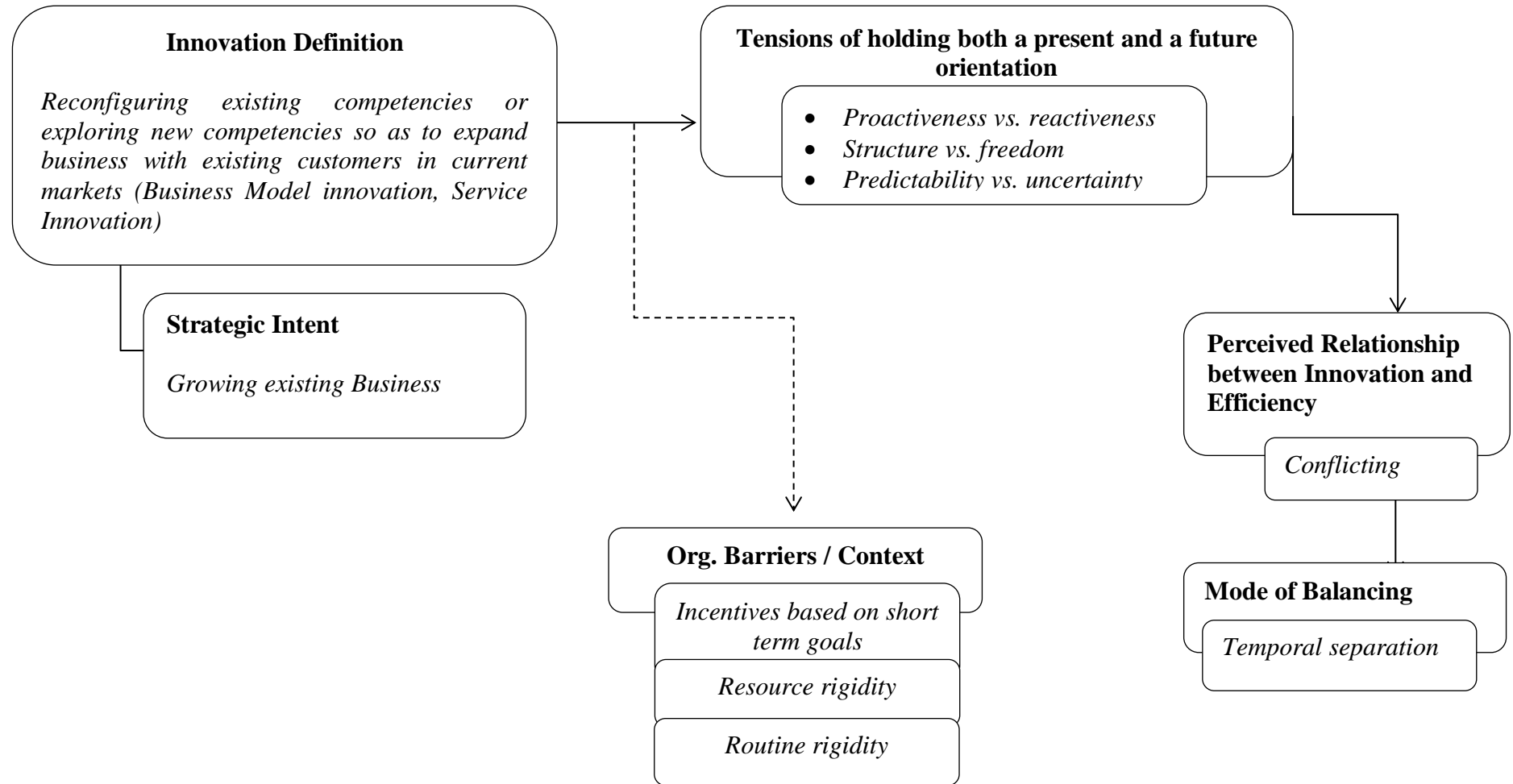
Difficulties in pursuing and implementing innovation at this level of senior management brought to the forefront the need for a supportive, coordinated organizational framework rather than informal, individual initiatives. The main

elements of this framework were building internal processes that would support innovation (having a clear scope, incentives, and resources) but also creating a culture for innovation where change would be welcomed and promoted. Similarly to the operations and middle management level, senior managers also expressed concerns as to what the new direction for innovation really meant for Telco and how it could be achieved.

*If you want to change something you need to make clear which way the company has to go. So it's the task for business development managers, the strategy unit is to say what actions you need to take in order to be successful. (Manager Strategy & Regulatory Affairs)*

The Figure 4.6. below presents a summary analytical diagram of emerging themes and their interrelations at this level of analysis.

Figure 4.6. Managing tensions of efficiency and innovation at senior management level (a)- analytical diagram





#### **4.3.2. Innovation as exploring new opportunities for growth**

Within the senior management level a different conceptualization of innovation was also identified emerging from the reconfiguration of current assets and competences for new customers and markets. This approach to innovation was very much driven by the strategic intent of exploring new opportunities for growth.

*We definitely need new solutions because we need to approach new customers. If we have such a vision of 50 billion devices, it also means that we need to expand our customer base to new markets (Manager Strategy & Regulatory Affairs)*

Telco explored new opportunities for growth through selling ICT services and technology to markets outside its traditional markets, for example government, transport or security. In order to address these markets Telco was also exploring different business models. Shifting towards these markets reflected the organization's pursuit of becoming a communication solutions provider, a newly introduced vision for the company at the time of the study. These markets were known within Telco as the "vertical markets" and within those areas innovation was a key theme in both the external and the internal level:

*It's not supposed to be reinventing the wheel, but it's duplicating it with a different notch to it that is applicable for a different market. (Director Strategy & Business Development)*

#### **Tension Manifestations**

***Traditional vs. new business.*** Based on this different conceptualization of innovation at the senior management level (exploring new opportunities for growth outside the current organizational scope), tensions of innovation and efficiency took yet another form. The central tension emerging from the analysis was primarily a tension of scope, based on the need to simultaneously balance the

current and the future operations. Searching for new opportunities outside the traditional markets Telco was operating in had been a key strategic priority for a long time in Telco.

*And this now we call the vertical business, but at beginning we even called the non-operator, so everything that is not operator is really not allowed because we have strategy and we want to be efficient and good and focused, it's difficult enough to beat competition and we have to stay focused. So now we shall explore non-operator business and then we defined the seven sub segments, the vertical sub segments. . (Director Strategy & Business Development)*

Dependency on traditional markets however made this shift a challenging one as diversification or even part diversification was considered a threat for many parts of the organization.

*The major challenge is convincing the organization that there is a business there and qualify... they are uncomfortable with new things. They are uncomfortable. They don't understand how a new organization like the Red Cross could even use communication. (Director Strategy & Business Development)*

A number of sub-tensions emerged from the need to balance current and future operations at this level. These were the need to find a balance between integration and separation of the different business units and to deal with issues of reintegration and internal antagonism. Second, a tension between new competencies needed to compete in new sectors, versus traditional competencies and their historical legitimacy.

***Separation vs. integration.*** Within that context of innovation, a key emerging tension was around the organizational processes for exploration outside the scope of current business. The issue of whether these two should be separated or not was still a matter of internal debate as a completely separate structure was

introduced in the past; issues of reintegration and internal antagonism however raised concerns to the top management team:

*On group level, you kind of have the choice of establishing a completely separate organization. In the literature you find things that run Skunk Works and so on and you can place it elsewhere and completely separate and so on... 10-15 years ago so did also Telco. And then we had a completely separate business unit that we called you know business innovation. So all the new stuff was put in that, but then it turned out that that created a lot of difficulties in terms of kind of reintegrating back, you don't invent it here and all those things and then came the telecom crisis and then for many reasons that was completely canceled. So it was completely taken out of the Telco structure at that point so all of that was closed down. There has been a period where we haven't really had any central unit for driving new things, but that's now kind of re-emerging (Director New Business Development & Innovation)*

Structural differentiation was not only a question during the phase of exploration but also a longer-term concern.

*Telco is of course built with the business units today to serve operators and if we're to serve totally other customer groups should we build mini Telcos or new Telcos on the side for that, how can we continue to leverage the technology that is basically developed for operators, do we have to decouple this even more? (Director New Business Development & Innovation)*

Within this context maintaining a balance was a challenging task mainly because of the need to create a space where innovation and new ideas were not treated as of secondary importance.

*The barriers to innovation, somehow comes back to the tension here is it's kind of to get the balance right, and realizing that you need to do this and that this is not becoming something separate or a place where you put the weird things that are not going anywhere anyhow, but things that are really important for the future. So I think there is a lot of experimenting*

*going on and organizations are typically not very mature to figure out how to do that. (Director New Business Development & Innovation)*

**New vs. existing competences.** Exploring new opportunities in different markets however also demanded an appreciation of different business environments, therefore for different approaches and competencies both at the organizational and the individual level.

*Telecommunication companies from a sales perspective typically have a 12-month sale cycle, so you have a target over 12 months. If you're looking at new industries, the target is not 12 months; the target has to be 24 or even 36 months. That's just the way that the relationship develops. So it's a complete shift from the way the organization even thinks about sales and even thinks about development and it's about being creative in the way that you approach that internally (Director Strategy & Business Development)*

Building upon and destroying the past to create the future also a key issue for senior managers:

*You have to be creative in the way that you actually understand what areas of the business are more applicable and what areas of the business aren't, and you have to also then understand is there something that we can go directly or is there something we have to go through a partnership with and is there credibility, do we have enough credibility to deliver that to that particular industry or is there another route that we should go to establish that kind of credibility. (Director Strategy & Business Development)*

In a similar note another senior manager explained the importance of building onto existing organizational competences:

*The force of Telco is going operator, after 2G there is 3G, after 3G there is 4G, and I bet after 4G there will be 5G and 6G so that tanker is going that way. The question is how to deploy that technology and make it to turn into something good for that new business... So could we take that big platform that we sell to Vodafone or Deutsche Telekom to manage their*

*customers, could we sell it to Peugeot or Volvo and Renault to manage their customers' trucks, maybe we can, you know if we can scoop it down. And maybe if we cannot scoop it down economically now let's do it anyway and sell it a bit cheap so we can learn from that and then over two to three years we can modify our products to better fit. So you must have something of course. And if you apply that to a completely new market that becomes innovation. (Services Sales Director)*

## **Tension Management**

***Mode of Balancing:*** In pursuing new opportunities for growth Telco maintained a balance between structure and freedom, which is here defined as “controlled exploration”. This process towards innovation allowed the company to both explore new opportunities and also maintain control through pursuing a specific number of market opportunities where it could have a quick return on investment. More specifically, a specific number of market opportunities to be explored were determined by Telco’s Global Leadership Team. These were explored through pilot projects that operated within a specific timeframe and with a goal of assessing an opportunity that would at a later point be integrated into the operations of the main organization.

*We did a basic analysis where basically we looked for industry where ICT could bring disruptive change fast, So we mapped out 65 ICT themes like the connected car, smart grid, mobile surveillance, remote diagnostics in health.... and we tried also with some experts to map out disruptiveness and speed of uptake. So then you can say okay what sub segments are these... So okay that's enough, you know we're doing 200 billion SEC with operators that's a good segment, so let's not open up seven at once, but let's explore these seven in this pilot mode and so that's what we're doing. (Services Sales Director)*

These markets, named the vertical markets were explored through pilot projects that operated within a specific timeframe and with a goal of assessing an opportunity that would be re-integrated to the main organization.

*So then we win maybe 5 or 10 or 15 on that type of customer and then we can bring that up to higher management and see, see the hypotheses that we can leverage our skills in these sub segments, proven. The pilot mode lasts until we get our head around it and that we feel that we have insight. (Services Sales Director)*

In order to accommodate tensions between traditional and new business areas, Telco initially pursued innovation opportunities through structural separation. This separation aimed to provide the necessary conducive organizational context for new opportunities to be explored before the traditional way of doing business choked them. As a senior manager explained:

*If you want something else to happen you must protect it from that normal business, if it's radical and if it's new and if it's different (Director, New Business Development and Innovation)*

This structural separation was based on parallel structures that were not fully isolated from the rest of the organization. A close collaboration was pursued between the top management team afforded with the responsibility of strategic coordination, and the regions. For this purpose pilot directors were not based at headquarters but were spread throughout the regions and worked in close collaboration with regional senior management. The process of exploring new opportunities through pilots was also closely monitored by senior management to make sure that opportunities pursued within the regions did not fall outside the agreed upon areas.

*So we have monthly calls with all the regions where we go through and we say that's interesting, that could be part of the pilot, maybe I can support it may be I cannot support it, can you pursue it on your own, good, you're*

*blessed, you know but you're within these seven vertical markets, you're okay, they are not in violation with the CEO's order of not doing anything else outside the pilot. (Services Sales Director)*

This controlled approach to innovation also fit with Telco's risk-averse culture and focus on maintaining a balance between efficiency and innovation.

*The Swedish mentality is relatively slow in decision taking but this also has a positive side otherwise we would not be so successful. The positive side is that we are not really jumping to new hypes, so we are not losing money on hype that later proves to be useless. So I think the type of innovation that is most important is the type of innovation that suits best to your company. Take Apple for example in a few years they have changed the whole sector, they built new business models in music industry and I think that a company like Apple or Google can do that. For a company like Telco I think that doesn't really fit to our company culture. I think the type of innovation that suits best our company is the more gradual one... (Manager Strategy & Regulatory Affairs)*

However, as these parallel structures did not operate in complete isolation from the rest of the organization a new tension was emerging from the need to pull the necessary resources from the organization during the exploration phase, and introducing new areas for growth within a conservative cultural environment during the implementation phase. Within this context managing the tensions between integration and separation was an ongoing process of trial and error for finding the balance that best suited the organizational needs and culture at a particular point in time.

*So much tighter connection to the main organization than we had 10 to 15 years ago and a kind of separate unit, but on the other hand, that gives a lot of issues because then you have to pull out the resources from the existing organizations and they don't want to give up their best resources because they're going to deliver all of the stuff and so on and there is no, I mean the whole theory around the nexus organization deals with that*

*tension and there is no easy way to solve that. So you can, okay we'll set it a bit closer, oh, no too close, let's move it a bit further and then you just keep doing that and I think that every organization has to find based on its culture, its leadership and so on, I mean what distance is right to have at any particular moment. (Director New Business Development & Innovation)*

Whereas exploring new vertical markets was a clear strategic priority at the top management level, lower levels of the organization had little or blurred idea about what this new strategy was or how it could be achieved, especially in their organizational environment, dominated by the need for efficiency and operational excellence. In this context, a key issue for senior management was managing organizational inertia and also strong internal silos.

*It's bringing that understanding, showing the opportunity to individuals internally to convince them that actually while in its current form it's not applicable, but if we actually redesign it somewhat it's more applicable then to that particular market, but you're not talking about a major shift in the functionality, you're talking about a slight enhancement to it. So it's about convincing people that there is an opportunity there and it's also convincing them that, you know, that this opportunity is actually worth a lot of money, you know, 100 million, 200 million, or 300 million or whatever it is and that the opportunity is there from an Telco perspective if Telco chooses to go for it. That's a challenge internally. (Director Strategy & Business Development)*

Table 4.9. below offers further illustrative quotes of how innovation was perceived at this level, its perceived interrelationship with efficiency, and the mode of balancing pursued. Also, a further illustration of how themes emerged based on the coding process (Figure 4.7.) is added as well as the analytical diagram resuming on main findings and their interrelationships (Figure 4.8.).

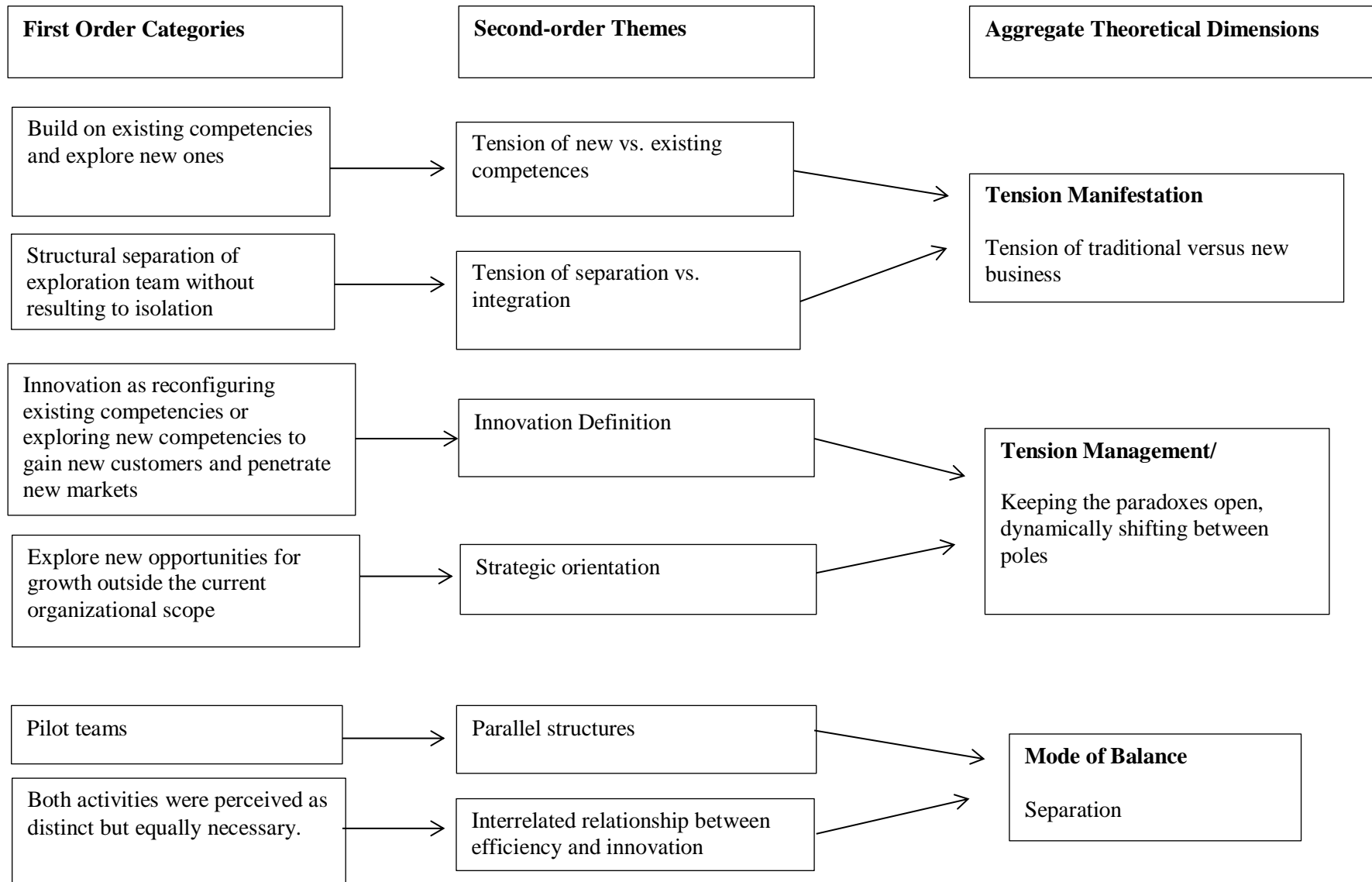


**Table 4.9. Managing tensions of innovation and efficiency at the senior management level (b).**

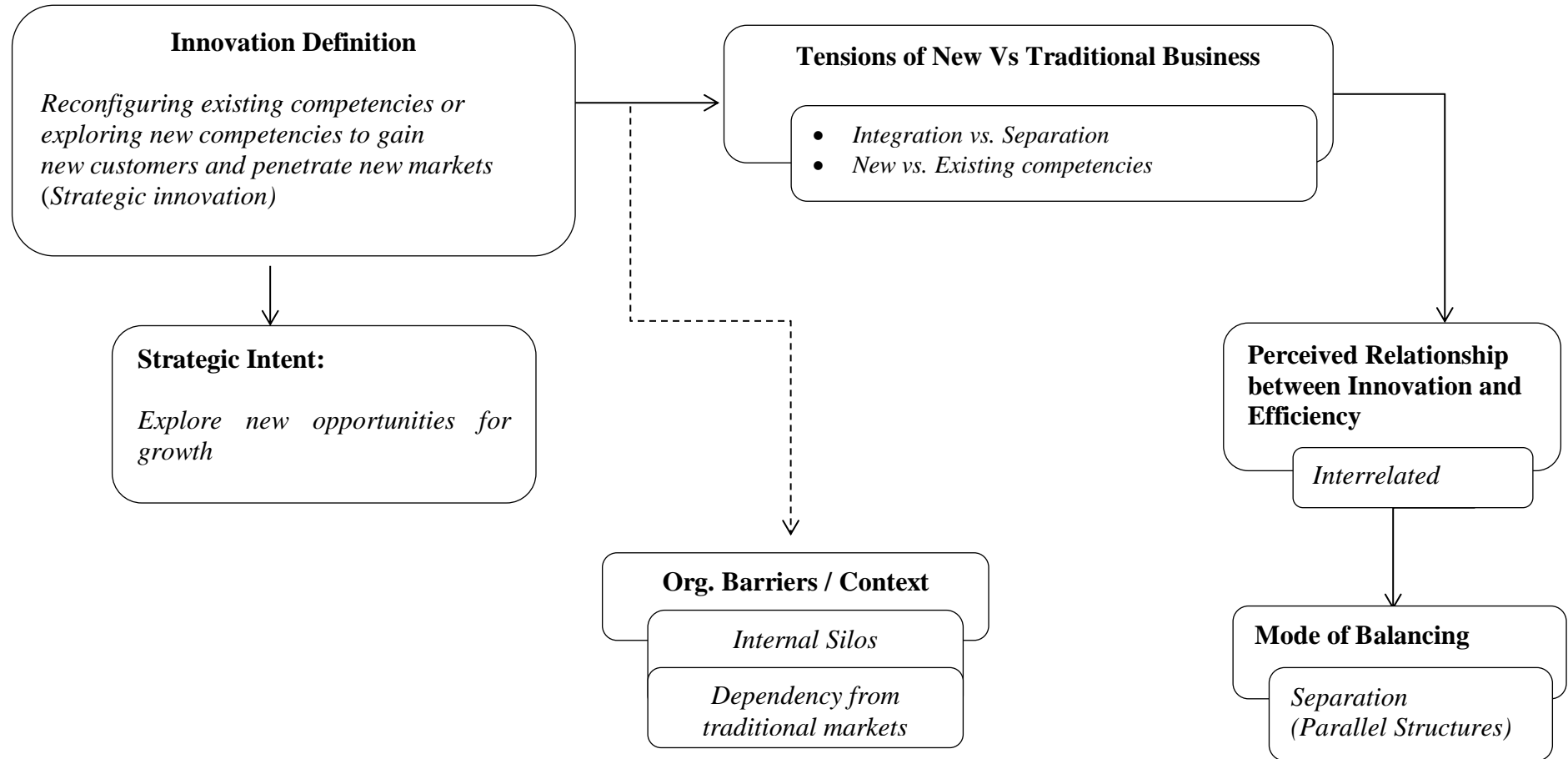
Second-order themes	First-order categories	Illustrative Quotes
<b>Innovation Definition</b>	<i>Reconfiguring existing competencies or exploring new competencies to gain new customers and penetrate new markets</i>	<p>We are working with innovation set forth outside the scope and the capabilities of the existing business units in the organization. Innovation is a central theme on a number of different levels, innovation in applicability of ICT in the given areas, innovation in the types of business models that are not traditional from both the vendor point of view, so the client's point of view, and also from our point of view as well. (Director Strategy &amp; Business Development)</p> <p>It is applying that knowledge base and that traditional product base to a completely new area of business. (Services Sales Director)</p>
<b>Strategic Intent</b>	<i>Explore new opportunities for growth</i>	<p>So to me that's closer to my mission of innovation to explore the potential of Telco's current assets with a new customer group... Currently we explore seven sub-segments outside our core business. Our challenge is to take in the program where I am the assets of Telco and turn them into value for these new customer groups. So we really collect the assets and develop the assets and together we operate with the customers, (Services Sales Director)</p> <p>We're not specialists in these segments and they are not specialists in telecom, so we just come also maybe with that hypothesis that ICT could bring value to you. We can say this could probably be something for you, but there are also areas for these customers which are more explorative and where we break new ground together. (Services Sales Director)</p>
<b>Relationship with Efficiency</b>	<i>Interrelated</i>	<p>The efficiency element could come around time usage, how much time should be spent on particular projects or how much time should be spent on, you know, background research or engagement with particular customers or attending particular conferences, that's where I have seen maybe efficiency may come into play. I am not sure if I draw a direct correlation between efficiency and innovation (Director Strategy &amp; Business Development)</p> <p>There is always innovation in efficiency and efficiency in innovation (Director New Business Development and Innovation)</p>

		In the vertical markets you have to be more innovative. You also have to be efficient in the way that you manage this innovation and manage the organizational structures within the organization. It's about being efficient in the way that you do that; is about understanding exactly what your goals are you have to watch your market approach, how you approach those markets. And that's where innovation comes into play because that's not only innovation in the product and services side but it's also innovation in the approach side as well. (Director Strategy & Business Development)
<b>Mode of balancing</b>	<i>Separation (Parallel Structures)</i>	<p>We identify the opportunity and help formulate that into a structure and then pull the necessary people from the different parts of the organization that could contribute to the end result, which is essentially a solution. (Director Strategy &amp; Business Development)</p> <p>You definitely need a greenhouse phase otherwise you know it's "weed", I mean something that turns up in a place where it shouldn't be. Even if it's a beautiful flower, you know, in field of barley if it doesn't belong there you take it out, it doesn't belong there, ... So if you want something else to happen you must protect it from that normal business, if it's radical and if it's new and if it's different.(Services Sales Director)</p>

**Figure 4.7. Data structure based on coding process (Case 2b)**



**Figure 4.8. Managing tensions of efficiency and innovation at senior management level (b)**



#### **4.4 Summary of key findings**

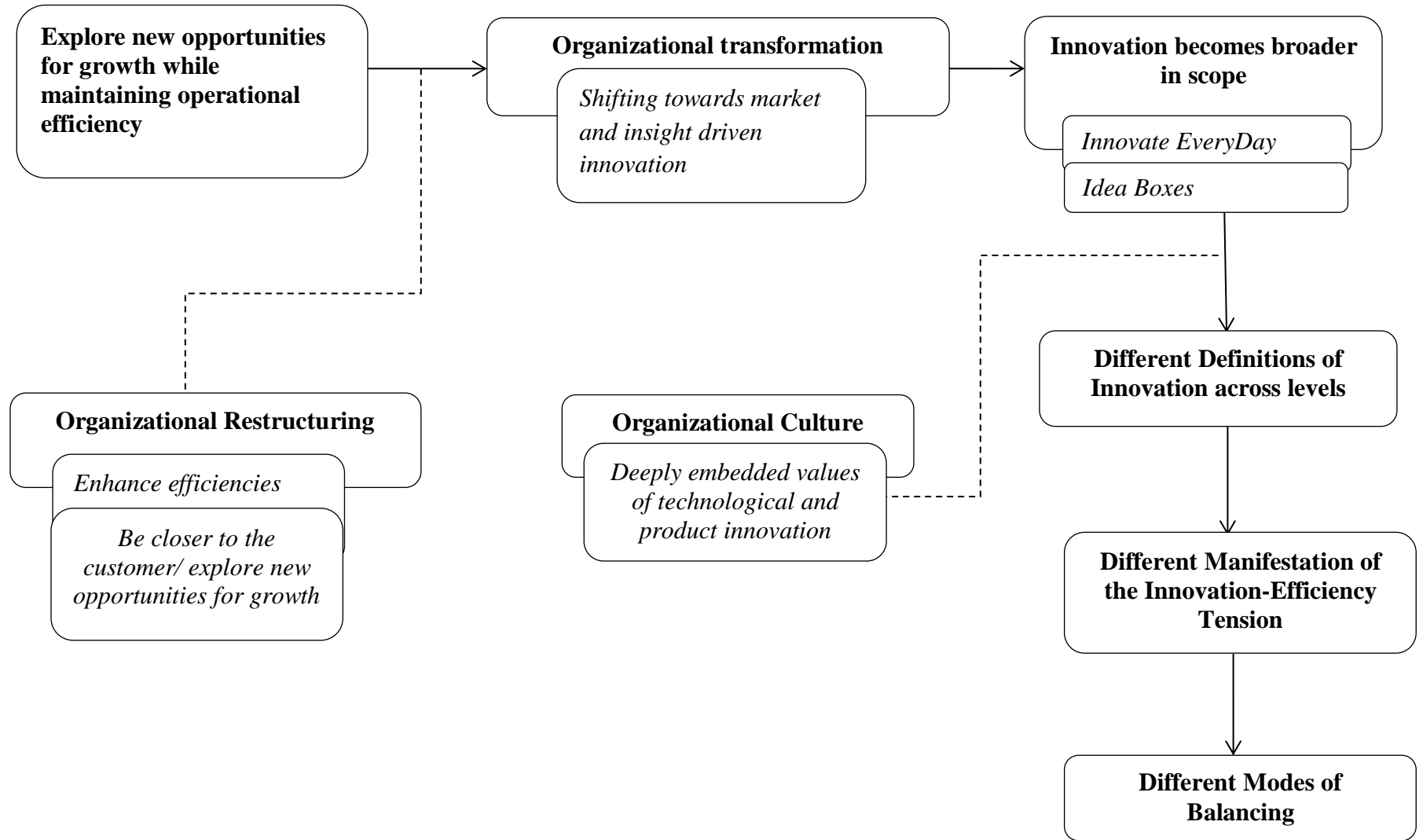
After an organizational restructuring and a new management team in 2010, Telco introduced a corporate strategy that placed equal emphasis in innovation and efficiency. However, in the context of a major telecommunications' company, with a tradition in radical, product innovation, the pursuit of innovation outside the strict limits of R&D departments demanded new conceptualizations around the nature of innovation. Indeed analysis at two organizational levels (operations/middle management and senior management) revealed the different conceptualizations of innovation at each level (process innovation, business model innovation, service innovation and strategic innovation), based on the group's strategic orientation (defending existing business, growing existing business and exploring new opportunities for growth).

Based on these different conceptualizations, tensions of ambidexterity were manifested as tensions of innovation vs efficiency (at the operations/ middle management level), tensions of present vs future orientation and tensions of traditional vs new business (at the senior management level). Different modes of balancing the tensions emerged from the analysis, suggesting a dynamic and pluralistic view of latent tensions and management approaches in different levels in the organization's pursuit of ambidexterity. Findings from this case contribute to the theory on contextual ambidexterity that argues for the simultaneous pursuit of dual demands within the same organizational unit. Whereas contextual ambidexterity is presented in the literature as an alternative to the structural separation of explorative and exploitative units there is limited empirical evidence on how this is achieved in practice. Findings from this case suggest that

organizational actors perceive and manage tensions of ambidexterity based on where they are based in the organization and their strategic orientation.

The figure below summarizes the overall findings and their interconnections in the case of Telco.

**Figure 4.9. Managing the tensions of innovation and efficiency in the pursuit of ambidexterity. The case of Telco**



## CHAPTER 5. ANALYSIS AND FINDINGS: THE SCHOOL

Shifting away from the ambidexterity tensions faced by a high technology company, the second organization that forms part of this research is a higher education organization (here referred to as the School). During the time of this research, the School underwent a transformational organizational change in order to increase its competitiveness and regain its former position among leading institutions within the increasingly competitive UK higher education market<sup>14</sup>. The chapter begins with some background information on the organization, the challenges it faced and the key strategic decisions that were made under the new management team that took office in April 2010. Efforts to balance the need for operational efficiency and maintain a high level of innovation are explored in greater depth, along with the idiosyncratic nature of a higher education institution in terms of managing these demands.

As with the previous organization of this study the analysis follows a similar structure: I first begin with an introductory section that forms the basis of the analysis by setting the broader organizational and contextual issues and then continue with the analysis of the two embedded cases (academic faculty, administration). This analysis then contributes to the broader theme of this research that aims to identify and understand how tensions of efficiency and innovation are manifested across organizational levels in the pursuit of ambidexterity. The analysis is also informed by a discussion of the organizational context (processes, structure, and culture) and the organizational changes that were followed by the new management team.

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<sup>14</sup> (Source: published article on The School, appearing in the UK press)



Overall, this chapter brings to the forefront an approach to managing ambidexterity demands based on structural separation (Tushman and O'Reilly III, 1996). In the case of the School, innovation was mostly related to the academic department through research excellence, whereas the administrative level was afforded with the responsibility of maintaining efficiencies through operational excellence.

Whereas literature on structural ambidexterity considers organizational separation an adequate means to isolate tensions in order to manage monodextrous units, findings indicate a more complex organizational reality of latent tensions within innovation-oriented and efficiency-oriented organizational units. Furthermore, within both groups a supportive organizational context (Gibson and Birkinshaw, 2004) emerged as playing a key role in facilitating the management of these tensions. In that context whereas the dominant approach to ambidexterity was that of structural separation, findings indicate balancing approaches of the contextual type (Birkinshaw and Gibson, 2004).

This analysis then contributes to the organizational ambidexterity literature by providing a more holistic approach to managing tensions of innovation and efficiency that is based on both structural and contextual configurations of latent tensions of innovation and efficiency.

### **5.1. Case background. The organizational change and the approach to ambidexterity in The School.**

*The School.* Founded in the 1960's the School is today a well-respected UK business school, consistently part of the list of UK's top 10 business schools and accredited from a series of national and international awarding bodies (Company Website). The School is well known for its broad range of programs

(undergraduate, postgraduate, executive education) and has also featured in the UK's SuperBrand list for quality, reliability and distinction<sup>15</sup>. The School's annual turnover for 2011 was estimated at over £45.7 million and for the academic year 2011-2012 it had over 2,700 enrolled students<sup>16</sup>. In terms of The School's internal structure, approximately 200 members of academic staff form 11 subject groups and units and almost all members of academic staff are research active<sup>17</sup>. Professional management and administrative staff, under the Chief Administrative Officer, are organized in functional groups (finance, marketing and communications, information systems, human resources) program or research support. Finally a dedicated Academic Services team is responsible for facilities, infrastructure, examinations, teaching quality and timetabling<sup>18</sup>.

*The new management team and the need for change.* Following the appointment of a new management team in 2010, the School announced an ambitious new vision, to become the "leading university based business school in Europe". Whereas this was regarded to be an ambitious strategy for the School at the time, a similar vision was also introduced in the early 00's with limited success:

*You won't know this but it's actually very, very similar to how our vision was stated in 2002 which was to be the best full line university based business school in Europe by 2010. We now have a vision, which is to be the leading university based business school in Europe but with no date on it. So there is an irony there that eight or nine years ago we had pretty much the same vision and it wasn't achieved and partly that was lack of leadership certainly between 2005 and 2009. (Administrator Interview N4)*

In order to achieve this vision the Dean and the top management team initiated a

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<sup>15</sup> (Source: School website)

<sup>16</sup> (Source: School website)

<sup>17</sup> (Source: School website)

<sup>18</sup> (Source: School website)

series of organizational changes that aimed at both ensuring efficiencies in The School's operations as well as boost innovation through excellence in research and teaching<sup>19</sup>. The new strategy included a holistic approach towards improving the School's overall performance in both ranking measures and teaching and service quality, following the drop in the rankings over the previous few years. The rankings results, which were described by some members of the School as "shocking", were considered by the School's leadership as well as several other members of faculty as a sign that the School was in need of an extensive and transformational change.

*It has not been realized in the School how much not 1<sup>st</sup>, not 2<sup>nd</sup> but how much 3<sup>rd</sup> division the School had become in terms of research. An appalling state. It was clear that there was a need for something to happen within The School. (Academic Interview N.13)*

Another member of the academic faculty added:

*I guess my sense is that for one reason or another there was felt to be a need for some quite significant changes here partly because of the performance in the research rankings in the RAE, which was not as good perhaps as some people might have anticipated or wanted and certainly not as good as the university itself would have expected from the School so that was kind of a wakeup call I think for quite a lot of people here. (Academic Interview N.5)*

Within an increasingly demanding competitive environment, it was perceived by members of the academic faculty that the School lacked a clear differentiating factor; a competitive advantage.

*One of the problems The School has is it has become increasingly conventional. MBA is similar to dozens other business schools. But there is the potential for differentiation. Before there was this notion that the*

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<sup>19</sup> (Source: publicly available document on the School's strategy)

*School was good. But good in what? That mattered to whom? You need to be able to be more granular. Unless you differentiate you become generic. Then we lose. The change was a bit overdue, we had become complacent. At the moment is its history and legacy of challenging the status quo, attitude of questioning and non-acceptance. What we have is our legacy at the moment. (Academic Interview N.4)*

During the re-accreditation process from EQUIS, the reviewing panel also commented:

*While acknowledging the centrality of research and program excellence we are of the view that other strategies will be needed, especially those that will lead to distinctiveness. We found it hard during our visit to identify the distinctive characteristics of The School. In a highly competitive and differentiated international business The School market (increasingly penetrated by private providers and professional bodies) differentiation becomes more vital (EQUIS Accreditation Report, 2011).*

**The Strategy.** In order to achieve the ambitious vision of becoming the leading university-based business school in Europe, the top management team followed an equally ambitious strategy based on three main aims:

1. Produce and disseminate world-class, cutting edge research capable of shaping the way organizations operate and businesses are led and managed.
2. Produce world-class, socially responsible, creative leaders and managers who think on a global scale, regardless of the size of their organization.
3. Provide a return on investment for students and alumni over their entire careers.<sup>20</sup>

A series of supporting strategies were put forward in order to enhance the School's academic performance and move towards European leadership. These supporting strategies spanned across the levels of the School to include innovation

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<sup>20</sup> (Source: School Website/ Vision)

in research, excellence in teaching and international prominence by establishing relationships with key corporate, institutional and educational partners, as well as management practitioners. Lastly the introduction of “blended learning” (a combination of face to face and online delivery) was considered to be a viable business model for a cost effective, high quality educational experience that would improve The School’s global reach and strengthen its income streams<sup>21</sup>.

The role of innovation in achieving these goals was particularly underlined within the School’s strategy document<sup>22</sup>. In particular it was highlighted that the School should leverage on its tradition of innovative educational provision (the first undergraduate business school teaching business studies in the UK, the first distance learning MBA in Europe and early leadership in executive part-time MBA delivery). In that context, the image of The School as an innovator was to be maintained and innovation throughout the School was to be prioritized, nurtured and rewarded.<sup>23</sup>

With the characteristic phrase “*Out with the old and in with the new*”<sup>24</sup>, the Dean launched a new marketing campaign, followed with a new branding identity that aimed at underlying the School’s differentiated and unique approach to management thinking. In one of his public speeches the Dean described the philosophy behind this campaign:

*I would like to leave you with a couple of quotes which I think describe creativity and also the philosophy at (The School). Edward de Bono - 'Creativity involves breaking out of established patterns in order to look at things in a different way.' And Henri Matisse - 'Creativity takes courage.' I believe that (The School) has the courage to break out of the established*

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<sup>21</sup> (Source: publicly available document on the School’s strategy)

<sup>22</sup> (Source: publicly available document on the School’s strategy)

<sup>23</sup> (Source: School website)

<sup>24</sup> (Source: School website)

*patterns in order to look at things differently and that this is the defining trait of our graduates*<sup>25</sup>.

***Dealing with multiple constituencies.*** The ambitious vision set by the new Dean was followed by a wide range of organizational changes both in terms of internal structure and operations and in terms of the School's repositioning strategy to the wider community and the external stakeholders. These changes covered three interrelated levels: the strategic, the academic faculty and the administration. The Dean described the multiple fronts that needed to be addressed during the first year of his deanship:

*We have stated our vision to and in order to achieve that we have to improve our performance in most areas. We're doing that in a number of ways: raising bars for confirmation of probation, raising the bars for promotion, raising the bars for hiring; we've proactively been hiring a large number of people on the academic side. We also have to think about rising our bar in teaching... There is, of course, the concern for the MBA program... We've been falling down the rankings. Certainly in our administration, there is probably excess capacity, or we are not as efficient as we could be on the administrative side. So again we're taking out a review of various administrative functions and we will be accelerating that over the next year or so. (Interview with the Dean)*

A key challenge in managing change within a higher education institution, described as a complex organization (Clegg, 2008), stems from the need to respond to multiple stakeholders whose interests might not necessarily be aligned (Sillince et al., 2012). These groups of stakeholders, also described as constituencies, assess the performance of an organization based on their particular interests (D'Aveni, 1996). In that context, satisfying multiple constituencies is perceived as a challenging act, not only due to resource constraints but also in cases where a certain combination of constituencies are conflicting, like for

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<sup>25</sup> (Source: School website)

example when students prefer a faculty that spends more time teaching than doing research, where research enhances the School's academic reputation (D'Aveni, 1996). Whereas the foundation of higher education institutions remains the production of new knowledge through research and scholarship, they must also succeed as "quasi-corporate entities producing a wide range of goods and services" (Gumport 2000: 71), competing for custom and resources, as well as reputation, regionally, as well as nationally and internationally (Henkel, 2007). The Dean described the inherent tension stemming from the need to balance research with teaching generated income:

*I think in terms of this business the School, there is always a tension between income and research, although, you know, there is a tension that in the sense the more resources you concentrate on research and bringing students in that raises your income, but then that can take your eye off the ball in terms of research ... so that's a threat, that's a tension. (Interview with the Dean)*

Another senior academic highlighted the balancing act at the top management level not only between the need for research excellence, teaching and delivering but also within academic groups:

*And that you know we do have multiple objectives... "Research-led teaching excellence", means that we are primarily a research-led school, but in order to be a top business school you'd have to be a recognized top teacher as well producing world-class students and graduates. So that could be a balancing act, but also a balance between which groups within the business school, to put resources into, which ones to reduce resources from. (Academic Interview N.19)*

### **The dual demand for innovation and efficiency**

Serving multiple constituencies placed an emphasis on both operational efficiency and innovation. Innovative capability has been widely recognized as a source for competitive advantage for universities as higher education institutions

need to change and adapt to the calls of the broader social demands (Lynch and Baines, 2004). The Report of the AACSB International Task Force on Business Schools and Innovation<sup>26</sup> also emphasized the importance of innovation during a climate of economic downturn as a key strategic option for an institution's recovery and growth. According to the report, three broad categories of business school activities (condensed to teaching, research, and outreach) are the most direct ways that business schools can support innovation, however rarely does a school place equal weight on all three. The report concludes that the choice each school makes, however, forms its basis for differentiation.

At the same time efficiency was also argued to play a significant role within a context of change as a way to not only provide a better quality of service to students but also allow for more innovation through better use of resources (McRoy and Gibbs, 2009).

*Well, a well-run business school ought to practice what it preaches, right? So we also ought to run our own business efficiently. I suppose the more inefficient and bureaucratic an organization is the less easy it is, obviously, to implement change and it's less easy just to constantly innovate and operate at the cutting edge... So we have initiated a number of changes in the business school over the last year, largely by being quite flexible administratively. So, you know, I think that the change and efficiency go hand in hand, right, you can't change unless you're operating flexibly and efficiently. (Interview with the Dean)*

### **The organizational approach to ambidexterity**

In order to balance the dual demands of efficiency and innovation the organization's approach to ambidexterity was based on structural separation of innovation (primarily related to academics) and efficiency (primarily related to administrators) under the directive leadership of the top management team

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<sup>26</sup> (Source: <http://www.aacsb.edu/resources/innovation/publications.asp>)



(Tushman and O'Reilly III, 1996). Innovation was primarily driven by research led excellence whereas efficiency was pursued by administrative operational excellence.

*You got to do both, aren't you, you know, you got to deliver what you said you're going to because you're taking a lot of money off people but I think if you want to get the best students, if you want to do the best research, if you want the best reputation you got to be innovative in some aspect of it. You got to be able to differentiate yourself from the opposition. (Admin. Interview N.2)*

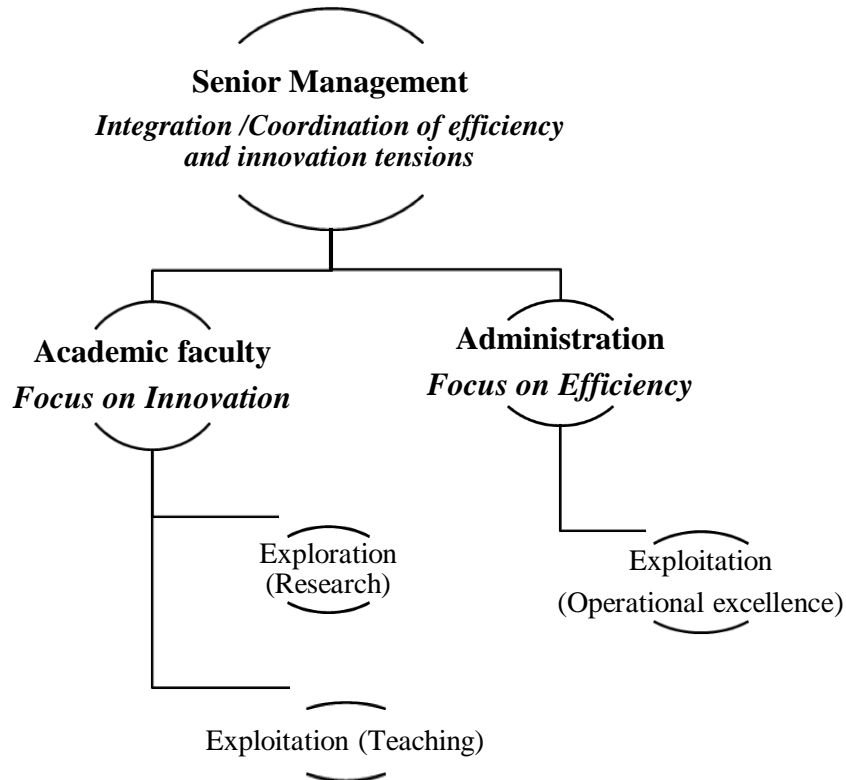
Within the context of loosely coupled systems such as higher education organizations (Weick, 1976) organizational separation allows for both exploration through experimentation and exploitation through fine tuning of internal processes (Lavie et al., 2010). This mode of balancing is based on a senior management team that recognizes and manages the tensions arising from the pursuit of often conflicting demands (Smith and Tushman, 2005). Active coordination and integration of those units at the top management level, ensures that organizations can pursue both activities (Jansen et al., 2009a), as the top management teams acts as “glue” holding these two separate units together (Tushman and O'Reilly III, 1996). Within the School this role was carried out by the steering group committee, The School's key decision making body, comprised by the Dean, the Chief Operating Officer and members of the academic faculty with management responsibilities for all the different elements of The School's activities (research, teaching, etc.).

*So the Dean's philosophy was that management accountability needed to sit more firmly at departmental level and of course the department is the business school and he is the head of the department as the dean. So he has seen The School as a much more integrated unit. So decision making is far more closely managed and controlled and there is quite, there is a big*

*connection between the operational performance and then the decisions that that drives. (Admin. Interview N.12)*

The figure bellow presents the organizational approach to ambidexterity based on structural separation under the coordination of the Senior Management.

**Figure 5.1. Organizational approach to ambidexterity in the School**



The top management team’s responsibility was to ensure that both units (academic faculty and administrators) would maintain and enhance their key roles and responsibilities (in innovation and efficiency related activities respectively) and also explore new opportunities for growth, based on the new strategic imperatives. The establishment of a new interdisciplinary research group and the collaboration with well-known UK Theatre Company as a vehicle for teaching in the creative industries were heavily communicated as exemplars of the School’s new approach to innovation and academic excellence.

*If you really are serious about being... and we are serious about being the leading university based business school in Europe then it's not enough just to do the things other business schools do and do them as well as or better than they do, you have to do some things that other business schools don't do, you have to have some flair of originality, something we offer that other business The Schools don't. Say, for example, the establishment of our behavioral science group, the emphasis on creativity and development within the business The School, our partnership with the Royal Shakespeare Company, other innovative ways of developing a pedagogy of teaching, these are all initiatives that mark us as or will mark us as different from the competition. (Interview with the Dean)*

At the same time senior management proceeded with a series of internal changes that aimed at increasing efficiencies. A thorough internal review process focusing on key parts of the School was aimed at ensuring that efficiencies were achieved and resources were used wisely. This reviewing process resulted in the streamlining of programs structure and administrative support and the restructuring of research groups.

*So what that meant for us was looking in quite sharp detail at the research of the academic community alongside the range of teaching that we offered across the School, how each line was responsive to the market. And alongside all of those things, taking a good look at how we were structured and organized within the School in order to be able to deliver against those ambitions while not increasing the cost base or, you know, taking our eye off of any of the elements of performance on the research and teaching (Admin. Interview N.12)*

At the same time a greater balance was achieved between the demands for both excellence in research and teaching through the recruitment or creation of teaching fellows and professors of practice.

*Well it is a difficult agenda and I think it is more of a difficult agenda in the UK because of the way research excellence framework is structured. It does focus on the idea of research and top level research but we know that*

*we are very good at teaching, we know that we provide a high standard of teachers so it would be wrong of us just to totally focus on research and if you look under this regime we've got our first professor who is actually a teaching professor. We never had that within the School before. We've also just recruited a number of professors of practice who are top individuals within their field, they've got vast experience that are coming in to teach our students so there's a focus both on research and teaching. We look at balancing that by recruiting very good teaching fellows and having a route all the way to the top of The School where you could be a very good teacher and you could make it the top, to be on the senior management team (Admin. Interview N.10).*

**A dynamic process of ambidexterity.** Managing the competing demands for efficiency and innovation at the top management level was considered a balancing act due to resource constraints and different time frames for executing different types of organizational changes. In that context the Dean described a sequential approach to balancing these tensions with a forward aspiration of the two activities to be both fully integrated within The School and operating simultaneously.

*So in the first year of my Deanship we've introduced lot of innovative changes and we're really now sort of catching up in terms of trying to implement the change in efficiency. You can begin the change process, ahead of the efficiency, but ultimately the two have to go hand in hand. Becoming more efficient especially in the higher education sector is a relatively slow process, you can't do it overnight (Interview with the Dean)*

In that context, efficiency was considered a means to facilitate innovation; operational excellence could allow for alternative use of resources in favor of innovation and exploration.

*The fact of the matter is if you leverage the key points of efficiency in terms of things like program delivery costs, program prices and program support levels, if you leverage those to increase efficiency all the sudden*

*you can create the resource that you need for all those new activities, for conference attendance, for travel, for research projects, so on and so forth. So, I think efficiency, managing efficiency gives you the capacity to innovate and change. (Academic Interview N.4)*

However, balancing these tensions was not perceived as a straightforward activity but rather as a dynamic process that persists over time.

*At any given time there are bound to be some tensions... to keep the equilibrium at a steady state, it would almost say that you turn off the tap of new ideas and you don't want to turn off the tap of new ideas. And therefore you need to think what do we need to spend to deliver this...But you know the rate of ideas creation and the way in which they impact on the bottom line and the finances at The School... I can imagine a situation where what's coming into the pipeline, what's going out of the other end is in a bit more equilibrium than it is right now; so maybe not in a fully settled position. There is the underlying dilemma. (Admin Interview N.5)*

Within this dynamic process, a senior administrative officer described the tensions between pursuing new opportunities for growth and ensuring some level of consolidation in internal operations so that these opportunities can be supported.

*We had a lot of new initiatives in the last year or two and there is a point where you might want to just start thinking about the internal structures and I think that's where we are now. But that's not to say if a good opportunity came up or a good partnership came up we would dismiss it, I don't think we would. I think we'd still be open, but I think there's enough going on at the moment, enough about the school that we need to almost consolidate a little bit and look at some of our internal structures. (Admin Interview N.10)*

Another member of academic faculty highlighted the different phases of idea generation, selection and implementation in the process of innovation and the risks associated with the implementation phase.

*I think we're going to have a period of inefficiency when you innovate, there'd be a cost. You may go backward; you may damage things, so there's just a period of time when it gets going, when everyone becomes proficient in it, etc... And the more innovative it is the more difficult and costly it would be to get it going...And there's also a tipping point, could it roll back? So I can think of various initiatives at The School level where it has actually rolled back; the innovative process actually stopped and we've rolled back. (Academic Interview N.3)*

***Internal challenges in pursuing an ambidextrous strategy.*** Bringing forward a strategy that placed an emphasis on differentiation through innovation research excellence required a level of transformational change for the organization that was not without challenges. Indeed the establishment of internal performance measurements at both the administrative and the academic faculty was a source of some degree of internal turmoil as “*everyone would prefer to stay as it is, than innovate and change*” (Academic Interview N.3).

Winning the hearts and minds of organizational members and providing a supportive organizational context was therefore considered key for the successful implementation of the new vision and mission for the School.

*Of course everybody wants to be better not everybody wants too much change even if change is towards the bright future or better performance for The School. So I think in this case, the key challenge for the new leader is to encourage and develop employee and professor identification with the new vision.... Strategic alignment, so that the employees can align themselves, their behavior, how they do things, their values with the challenges of the organization, that's the key thing. (Academic Interview N.2)*

Another member of the academic faculty highlighted the importance of “mindset” in the successful implementation of the organizational changes.

*Change is innovation, innovation is change, you're lucky if you have people like that but inevitably, you know, certainly not everybody is able to*

*make that change, you know, both in terms of capabilities but mostly due to their mindset. Some people may have the capability but are not willing and I think that's what is happening, you can see how many people leaving and so on... (Academic Interview N.9)*

**Summary**

This section has presented how tensions of ambidexterity were perceived and managed at the organizational level, following an approach to ambidexterity that is based on structural separation (innovation through research excellence and teaching and efficiency through operational excellence, reflected in the academic and administration units respectively) under the leadership of the top management team. The following sections will explore how tensions of ambidexterity were perceived and managed at the two organizational levels: the innovation-oriented level of academic faculty and the efficiency-oriented level of administration.

**Table 5.1. Organizational approach to ambidexterity. The School.**

<b>Ambidexterity Tensions</b>	Exploiting current competencies and exploring new opportunities for growth	
<b>Approach to ambidexterity</b>	Separation under the leadership of the top management team	
<b>Organizational Level</b>	<b>Academics</b>	<b>Administrators</b>
<b>Strategic intent</b>	Innovation through research	Efficiency through operational excellence
<b>Illustrative Quotes</b>	<p><b>Exploring new opportunities</b></p> <p>What has happened under this regime is that we have moved back to the idea of academics being at the heart of what we do and driving the change. (Admin Interview N.10)</p>	<p><b>Exploiting current competencies</b></p> <p>We are trying to get the administration into the most efficient space it can so that we can support the innovations within the School, because I think it's about getting the administration to be more responsive to this idea. (Admin Interview N.3)</p>

## **5.2. Managing multiple demands at the academic level**

The previous section (5.1) analyzed the organizational approach to efficiency and innovation based on structural separation through research excellence (related to innovation) and operational excellence (related to efficiency). This section will focus on the academic level and the latent tensions of exploration that were manifested in the light of the ongoing organizational change. Findings suggest that whereas the organizational approach to ambidexterity is mainly based on a structural separation under the directive leadership of the TMT, tensions of ambidexterity are still present within the academic faculty. These tensions mainly relate to the pursuit of innovation associated with exploration through research excellence and the need to balance competing time demands arising from the need to carry out teaching and administration.

Whereas so far the literature on structural ambidexterity placed the management of tensions only at the top management level, research findings suggest evidence that tensions are still present within supposedly monodextrous units. Rather than finding perfectly separated units, this research illustrates the much more complex and pervasive nature of tensions of ambidexterity, raising the issue of innovation-oriented and efficiency-oriented groups in the pursuit of structural ambidexterity (Ramachandran and Lengnick-Hall, 2012).

These findings are analyzed in the context of a loosely coupled organizational system (a university department) which is consisted of differentiated groups in terms of roles, responsibilities and identities (Weick, 1976). The coping mechanisms as well as the role of a supportive organizational context are also analyzed providing further insights on the challenges of structural ambidexterity. This analysis then contributes to the organizational ambidexterity



literature by providing a more holistic approach to managing tensions of innovation and efficiency that is based on both structural and contextual configurations.

**The organizational change and the academic faculty. Finding the links between macro level changes and micro level experiences.**

In order to achieve its ambitious vision the organization underwent a period of what was described by members of the School as transformational change with significant effects on the expectations placed on academic faculty. In that context the aim of the analysis is to focus on how the macro-level changes that were described at the previous chapter were experienced by individual academics within the organization so as to explore how ambidexterity was perceived and managed in practice. The manifestation of ambidexterity tensions at the individual level could not be discussed without taking into consideration the context of organizational change, as increased external pressures and demands on academic faculty have been suggested to affect traditionally established assumptions regarding academic work and professional identities (Ylijoki, 2005). This analysis aims at highlighting these common elements to managing tensions of ambidexterity, having in mind that at a time when the academic role is becoming increasingly diverse (Churchman, 2006) any attempt for a homogeneous approach to academic faculty as a unified whole is oversimplified (Stiles, 2004).

Traditionally university academic faculty's role has been defined based on three domains: research, teaching and administration with primary focus being given on research and teaching (Hudson, 2011). However, pressures on academic faculty have been rising given the increased expectations for measurable research

outcomes, responsiveness to societal and student needs within the context of a “knowledge society” (Houston et al., 2006). Discussing the nature of the academic work, the interviewees often referred to the concept of the “knowledge worker” or the “creative worker” to describe their perception of their everyday work. Within that context, new ideas and a tendency for exploration were perceived as integral to the academic profession:

*A business school like a university department consists of knowledge workers and you would expect them to have ideas and want to do things differently I think there are probably new ideas and new thoughts about how to do stuff at every level of an organization like this. (Academic Interview N.4)*

However the individual process towards exploration was no easy task. A respondent drew an illustrative parallelism to describe his experience:

*So I have some friends who are artists and the weird thing is that when I talk to them about the problems I face in my job - if we take away the matters of money and resources, which they have- it's basically the same kinds of problems: self-motivation, dealing with multiple demands from different people, having to engage with different kinds of audiences, having very long payoff periods in terms of when you deliver something... Work being heavily related to your existential being almost... This kind of desire... You just can't only do the job you know... You need to feel like you're pushing boundaries or doing something new. (Academic Interview N.8)*

At the same time this process of exploration related to research was also described as a very personal matter, like a private sphere in the knowledge worker’s activities, bringing forward an interesting tension between privacy and openness in academia.

*I think research is also a very personal activity...In many cases, there is a kind of natural reluctance to show you their papers, for example, because these are private matters. I mean this is kind of irony really, we are in a*

*commercial organization where you know a substantial amount of our daily work is viewed by many of us as quite a private phenomenon. (Academic Interview N.13)*

Within university departments individual faculty members are traditionally perceived as independent entrepreneurs within a context of relative freedom from close supervision with regard to how they do their work (McRoy and Gibbs, 2009). Within that context a key characteristic describing their relationship with the organization was a certain level of detachment.

*Academics come and go, you know, sort of the turnover is relatively higher and they don't work for the company. You know, we don't have a single product as an organization to work. We do work for ourselves in a way we're producing a paper, so very fragmented in that way. (Academic Interview N.6)*

These characteristics of a private, autonomous and idiosyncratic way of working were particularly relevant in the context of organizational change, as successful change initiatives in Higher Education institutions rely more on a collective, voluntary adoption of changes than top-down implementation and should respond to established academic cultures and modes of behavior, rather than attempting to change by imposing an alien alternative structure (McRoy and Gibbs, 2009). A senior academic described the difficulty in establishing change within the academic faculty:

*You might be able to create change on a professional level where you say, "These are the new goals of the organization," but you have no idea whether people will actually comply with it. So it's all up to the academics in the end. So I think change is probably harder to establish. (Academic Interview N.7)*

***The relationship between innovation and efficiency.*** Based on the School's strategy of promoting new ideas and innovation throughout the school, how was this goal perceived and managed at the academic level? An exploration

of the innovation-efficiency tension at this level confirmed the organizational separation of exploratory oriented units (academic level) from the efficiency oriented unit (administrative level). Innovation at the academic level was mostly linked to research led activities, driven by personal motivation, whereas efficiency was only considered relevant when it satisfied these demands.

**Table 5.2. Defining innovation at the academic level**

<p><b><i>Innovation linked with research</i></b></p>	<p>For any of that to mean anything you have to have innovative and provocative, rule breaking research initiatives which change the way people think about doing things. So those I think are illustrative sorts of values that we are talking about and they are linked together probably by innovation and change (Academic Interview N.4)</p> <p>I think The School is trying to be more innovative through new research, (Academic Interview N.2)</p> <p>We have a target of all what is considered as innovative product, is a high star, you know, four-star publications (Academic Interview N.6)</p> <p>So innovation for me is research that's incredibly applied and it's using innovative ways, interesting ways to do the applied work. So for me that innovation is really around finding creative solutions to real world problems and you have to innovate to work out how to do that because the solutions often are already there in the literature partially because of these historical reasons around what research has been. (Academic Interview N.11)</p> <p>I mean at the end of the day, you know, if something is innovative, it means that it's taking the current state of research quite a bit further (Academic Interview N.12)</p> <p>What excites me about coming here in the mornings is the fact that actually the research I do in that day is going to be innovative in some interesting sense you know, otherwise it would be a desperately dull place to work and, you know, and that kind of excites me and I am sure it's what excites, my colleagues around the place (Academic Interview N.5)</p> <p>Cross disciplinary research would be a very important part of innovation within a business school context... I think that if you really talk about groundbreaking innovation, radical innovation, I think you need to work across disciplines and also you need to have close connections to practitioners who can tell you these are problems we are experiencing (Academic Interview N.16)</p>
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A senior academic member described the type of innovation most likely to occur at the academic level as being more of a granular nature and less of a radical type, driven by personal motivation.

*People in the middle level of the School innovate for different reasons. I suspect they actually change a lot more because they take ownership. So we have a sort of strategic innovation that finds a lot of resistance and a more granular innovation at the level of individual academics, which is less radical and probably more effective in terms of actually changing things. They feel strongly about in terms of research projects, research incentives, new programs, new ways of assessment, whatever it may be. (Academic Interview N.4)*

Indeed the type of innovation discussed at the academic faculty level was the result of intrinsic motivation, stemming from the individual's need for exploration and change related more closely to personal rather than organizational demands.

*I think it's very much a personality thing, your disposition to think more creatively, to always try to do something exciting and out of the box because that's what excites you and you have the predisposition to always think about new ideas because that gives you satisfaction, that gives you hope, you know, so that's something that motivates you (Academic Interview N.9)*

Whereas innovation – related to research excellence—is an organizational demand, it forms a fundamental part of the academic process of exploration. Efficiency however is not considered part of the job, something one would want to do, or is aware of in terms of the broader benefit of the organization. Efficiency was only considered useful when it served personal goals.

*Would I get very excited about, an operationally excellent workshop or something where it might make it a bit more efficient? I am not going to get excited about that. I guess other people are going to think the same, you know, that their preoccupations are going to be very much around*

*research, around teaching to a certain extent, much less around well how do I make the School a more efficient place, you know, whereas if you are a production manager in a corporate organization, you know, you better be focused on the efficiency of the process... (Academic Interview N.5)*

The relationship therefore between efficiency and innovation becomes very much an individual and personal issue. In that context, efficiency is considered a means for innovation and exploration:

*I think you have got to be efficient and productive to create the slack to innovate. (Academic Interview N.4)*

***Dealing with multiple demands at the academic faculty level.*** Whereas dealing with multiple demands of research and teaching was perceived by most members of the academic faculty as an inherent part of the academic role, the increasing demands at all fronts that followed the organizational change, led to the manifestations of latent tensions within the academic faculty. These latent tensions, embedded into the process of organizing become salient through environmental conditions (Smith and Lewis, 2011) but also through actors' cognition and rhetoric of boundaries that draw attention to underlying tensions (Ashcraft et al., 2009).

On the one hand academics described the increasing teaching demands stemming from the ever increasing student numbers and the higher student expectations following the rise in fees in UK Higher Education Institutions. At the same time, the demands in terms of research productivity had also risen. Within a context of transparency and internal research evaluation, academics were increasingly held accountable for delivering research outputs, especially in the context of the forthcoming REF. This pressure on research productivity was described as a changing aspect of the academic profession that put more pressures on individuals.

*Research is massively more prominent... Now I think we are a School that is more explicit about the need for an intellectual part to everything that we do and that prominence of research is I think genuinely felt to all across the School. You've got a strong idea every day to write papers and books, get research grants in, satisfy students, teach a class once a week. This is now something that's a much more demanding profession than it was. And part of what we're seeing here in The School and part of the issue and part of, in a sense, the way the conversation about research is manifesting in The School is really in these generalized rising expectations. (Academic Interview N.19)*

At the same time raising expectations for academics to be active members of their scholarly community, at a time when these communities are ever getting bigger, stronger and more competitive, added further pressures.

*I think certainly in a School like this now I think there's always been at some level pressures and needs to be involved in scholarly communities. That increasing global nature of the business, if you like, and its increased international scale, bring a variety of pressures for those of us who happen to be in places where we are expected to play a role in those through journal editorship, through society leadership and so on and so forth. (Academic Interview N.13)*

### **Tension Manifestations**

*In Search of the ambidextrous individual.* Business schools are based on the principles of knowledge exploration through research and knowledge exploitation through teaching, serving two main constituencies: a. students and business practitioners and b. the academic community (Trieschmann et al., 2000). Within this context, (March and Sutton, 1997) identified two distinct subcultures: the "soldiers of organizational performance and the priests of research purity" (p.703). Whereas the priests of research purity pursue deep knowledge through exploration and experimentation, looking towards the scholar community, the soldiers of organizational performance disseminate and apply knowledge in the

pursuit of enhanced organizational practice (Trieschmann et al., 2000). Within the context of business schools, balance was pursued through a combination of individual academics that would serve usually either one or the other constituency (Prange, 2010).

However, faced with increasing demands, it was becoming increasingly obvious that making a choice between different demands, was no longer a viable option and that equal emphasis was to be placed in excellence in all domains. This was seen as a fundamental change in the academic role.

*That sort of teaching versus research culture was actually quite sustainable for quite a long period of time, but the pressure is now to say, no you actually can't make that choice. This School in particular wants to be in that group of schools internationally where the mandate is teaching and research. So you have to perform at excellent levels in every activity you undertake whether it's your research activity, the professional service or your teaching, or your supervision. It has to be excellent and that shift from really being primarily research driven who does a bit of teaching or a teacher who does a little bit of research into something: "we have hybrids who perform well in both areas", that is actually very problematic. (Academic Interview N.15)*

Another member of the academic faculty highlighted the multiple demands that academics are faced with:

*Do excellent research, teach excellently, and be a good colleague, that's all we have to do in our job and it's up to us to manage how we deliver those outcomes. But we have to deliver them. (Academic Interview N.11)*

As a result, during this transformational period, there was some degree of turmoil within the academic faculty community that was based not only on raised expectations and closer performance monitoring, but also due to the fact that these expectations included all aspects of academic life. For some members of faculty these demands were considered unrealistic:



*I think that was in context to teaching and supervision and admin, everyone still has the high expectations for research but in addition to that they need to do something else as well. Well it's not good long term, it's not realistic to have such lofty expectations that everyone can do 50% more teaching and well as research output, something's got to give and I am not sure there's the recognition of that everywhere . (Academic Interview N.18)*

For others, managing multiple demands was considered a part of the shifting of academics into ambidextrous individuals, capable of juggling different sets of challenges:

*I do think we need people who are more – can kind of pick up any musical instrument and who are able to talk to different audiences. It certainly requires us to promote them, or to recruit a different type of candidate because the world is full of people who are good at one thing or the other. A lot of The Schools would still accommodate that. You can go get no teaching deals and just be a researcher or you can become a teaching-based academic. If you aspire being in the upper echelons of international schools, you can't tolerate that. (Academic Interview N.19)*

**Teaching vs. Research.** As universities are becoming more complex institutions in terms of serving multiple constituencies and different demands, scholars have analyzed the conflicting pressures and the fracturing between teaching and research (Clegg, 2008). Indeed, this was a prominent tension faced by the majority of research active academic faculty:

*On the one hand side we have been saying to people your number one priority must be research and then obviously the highest possible level, 4 star journals and so on. At the same time, we are saying by the way you need to be developing new programs, more teaching, more administration and so on... (Academic Interview N.4)*

Balancing the time and resource intensity required for high quality

research and the additional increasing demands on teaching and administrative activities was a key challenge for academics. Table 5.3. provides further illustrative quotes on the tension of teaching vs. research.

**Table 5.3. The tension of teaching vs. research**

Illustrative Quotes
<p>Well, I mean there is a need to implement all areas of work, research, teaching, administration and that means there are demands on one's time and the extent that there are demands on one's time, you know, the teaching demands and admin, those could be constraints, the remaining time is for research. (Academic Interview N.12)</p>
<p>It is very, very difficult for anyone now I think... and there is just less time to do things and more pressure on you to deliver outputs. I mean you do wonder whether some of the great works you know the historic works in social sciences and humanities would ever be written nowadays. (Academic Interview N.10)</p>
<p>Research is a very time intensive activity and it's important that people have the time to do serious work because that's really what we're expecting above all in our colleagues. (Academic Interview N.19)</p>
<p>I think the research / teaching tension is important because you're actually trying to find ways that will make life easier, or give more space to people who want to do research because personally strategically I would hate to see a research only group and a teaching only group because some of our best teachers are also researchers. (Academic Interview N.3)</p>
<p>So I think that's been a constant problem for our group and given that the principal professional incentives are publishing then that is a tension and if there was a stronger recognition that the value of teaching for the purposes of promotion and pay increases then the tension wouldn't be so pronounced. All the teaching you do and given the current professional incentive structure is about buying yourself time to do some research. So there is a structural tension there because of the way that the profession is organized. (Academic Interview N.10)</p>

And that's very hard when you have these small slices of things you have to do rather than being able to that all week to work on something which is actually what it really takes to do something properly, research at least, you need good amount of time. So I often have this sense of having these huge amounts of demands which I can never really get rid of very different things which then require switching between them. And if conditions are perfect you can write a long list and go through stuff but then you know that something will come up like travelling and so on which make it more difficult. (Academic Interview N.8)

People investing more time in research means that you have less time for teaching so you need to become more efficient in terms of teaching and you cannot do things that you might have done before. It sounds cruel but it's that way in the end. (Academic Interview N.7)

***Mode of Balancing: Temporal Separation.*** In order to balance tensions from these competing demands academics would pursue a variety of strategies based on temporal separation. Shifting between periods dedicated to research and periods of intense teaching was one of the coping mechanisms for academics.

*This idea of doing one term teaching and then the rest of the year being a research year I think if we can manage that it's a great thing. I manage it in life because I teach in the autumn term and then I don't teach from January to October. So you can have a clear head for doing some research. (Academic Interview N5)*

Time management and following a strict process for exploration were described as other key coping mechanism at this level.

*I like variety. But variety is hard to manage on a day-to-day basis. It's very hard to review a paper first thing, do a little bit of marking and then delve into the theory section, have a decent paper in the afternoon. It's just that juxtaposition of different sources is quite challenging... Time*

*management is such an important set of skills. that's an enormously important asset whether that takes the form of the simple ability to say no to things in a nice way or whether it's a set of decision rules about when you'll say yes or no or about how you spend every day so you don't come to work and spend the first two hours dealing with emails or something kind of wasteful like that. (Academic Interview N13)*

Apart from temporal separation as a mode of balancing between multiple demands, academics also described a number of individual coping mechanisms that could facilitate this tension management (See Table 5.4.).

**Table 5.4. Academic faculty: coping mechanisms for dealing with multiple demands**

Second-order themes and first-order categories	Illustrative Quotes
<b>Enhance efficiency</b>	
<i>Follow a systematic process</i>	<p>For me, I mean, the journal editing, having to deliver on deadlines, reading through a hundred pages a year, which would be some pages per week, so working through those, responding to them and making a more systematic process makes it easier to do that. (Academic Interview N.13)</p> <p>So when I have a new task it's almost like extending the zone of exploitation, the actual processes and what they are and putting them in place. So when processes don't exist it actually becomes very hard. (Academic Interview N.7)</p> <p>One of the first questions to basically ask is which processes are in place and what's another way of going about doing that and applying this to this space over here, because actually we have very broad boundaries on stuff and being creative all the time that's actually a problem. What you want to do is to basically be able to work out what the processes are for doing something and then it actually becomes much easier to do. (Academic Interview N.5)</p> <p>Being efficient allows you more time to be creative. So it's knowing what you can be kind of efficient about and what perhaps you need more time to develop. (Academic Interview N.11)</p> <p>I still think it's up to you as an individual because we're given so much autonomy to find a way of making that work and I think one of the things is being very efficient about bu reaucratic activities. So having processes for recording feedback, etc., I think is really, really important (Academic Interview N.14)</p> <p>If you randomly need to create from the beginning, without a routine it becomes a lot more difficult to do. (Academic Interview N.8)</p>
<i>Manage a portfolio of activities</i>	<p>I have a very specific view on exploration, exploitation. I don't work sequentially. I don't do one thing at a time. Instead I have different projects at different stages, some exploring some exploiting. I manage a portfolio of different things, given my preference for variety this works for me. (Academic Interview N.13)</p>

	I think the challenge is to strive to develop and maintain and implement, you know maintain a portfolio of research initiatives that tend to balance the needs of the short-term with the long-term. (Academic Interview N.16)
<i>Time management</i>	<p>I suppose managing one's time to accomplish one's goals such that there is a balance between the short-term outcomes and the long-term. (Academic Interview N.16)</p> <p>In my experience of talking to people, not just here but generally in universities there is waste of time in terms of people, not being very organized about this kind of bureaucratic processes and I think that can be a problem. (Academic Interview N.13)</p>
<b>Enhance skills and competencies</b>	
<i>Draw from the complementarities of different demands, maximizing synergies</i>	<p>I think if you were just left alone to do research and, again just talking from my own personal perspective, research and write all the time, I don't know if you'd be as efficient doing that as you would do if you had to account for other blocks of activity in your time. I think the fact that the teaching focuses the mind on, okay, I have to have this stuff ready for this certain date, and it's actually quite useful for the other activities. (Academic Interview N.13)</p> <p>How can you be a great teacher in a leading academic institution without researching, talking to people in the businesses involved in your research area, the policy makers involved in your research area? How can you be at the cutting edge if you're not out there in the field doing work in it, I think, it enriches your teaching hugely to be doing that. Teaching again I think supports research in two really important ways at the school at least. The first is that obviously if you're teaching professionals like MBA students it's an excellent way of finding out about their organizations, finding out about their concerns, their tensions, gaining access to companies. (Academic Interview N.4)</p> <p>I think the aim is to maximize synergy on these areas, in that sense, if you can leverage, you know, what you are doing in one area to help in another that's great. (Academic Interview N.12)</p> <p>The other thing is that when you're working really working individually on a research project, it can get quite depressing sometimes you don't get what you get from teaching, like when your teaching goes well then you know and then you come away and you feel quite good, whereas it takes five years before you know or even longer if you have a good piece of research. (Academic Interview N.16)</p>

<p><i>Make good use of resources</i></p>	<p>The key is to make use of that, make use of the resources. I think, probably what's good about the school is that if one sees a need for resources for a particular area, then people tend to be receptive to providing those resources in doing what they can to offer those resources, whether it's to develop a skill or a capability for understanding a new software tool or a new methodology. (Academic Interview N.12)</p>
<p><i>Through collaboration</i></p>	<p>My own view about how you build success in research in a context where there are other pressures as there will always be for excellence in teaching, for contributions to management and other things you know, to family life, or you know the whole range of things we all face, is through collaboration. And I've always been a very keen collaborator in research terms. For me a substantial part of the fun I get out of doing research is research as a collaborative, collective endeavor rather than as just me sitting in my office kind of typing out my 30 pages you know although there is something attractive about that also. (Academic Interview N.19)</p> <p>I think a lot of resources we get for dealing with these tensions come from the academic fields in which you are working, so that you have very dense networks that cut across organizational boundaries and you can use them if you have a problem... (Academic Interview N.8)</p>

*The tension of Autonomy vs. Control.* Shifting from the tension between research and teaching, stemming from the need to accommodate multiple demands, another latent tension identified at this level of the organization was that between autonomy and control. The notion of autonomy was particularly relevant at this level of the organization, based on the identity of academics as individuals who are loosely coupled to an organization and for the most part pursue their own research projects, within a context of relative freedom from supervision with regard to how they do their work (McRoy and Gibbs, 2009). Creating an environment of creative freedom and autonomy was perceived as paramount for the academic community.

*...Facilitate and encourage people to flourish and that means giving them the space to think and do what they feel is important in dialogue with their colleagues... and we have very little scope for that. So I would say my view would be, well, creativity flourishes when people have freedom, when they have autonomy (Academic Interview N.10).*

The tension between autonomy and control however was considered a persistent tension within the academic profession, rooted in the fine line between autonomous discretion and the institutional constraints (Ylijoki, 2005) that stem from the increasing pressures on higher education to provide a transparent, outcomes-based and consistent model of operations (Turnbull et al., 2008).

*There's always been this tension, between autonomy and control and always you are going to get back academics complaining about the center or the dean trying to tell them they shouldn't do this or they shouldn't do that and they're always going to be unhappy about attempts to control the states of their personal lives. So, if you look at the history of the school, what you see is a history of this kind of, sort of questioning or critiques or unhappiness about some of the initiatives which the dean has brought in but I think in a sense, this is being brought to almost this absolute kind of level because of the kind of how it's being implemented. (Academic*



*Interview N.8)*

The tension between autonomy and control was reinforced within the context of organizational change which marked a shift towards greater levels of accountability and research performance monitoring.

*There never was any school wide process for managing or monitoring peoples' year-to-year research output and because of this sort of impetus towards the research excellence framework, the REF, the University has instituted and the business school has implemented a process of monitoring more actively people's research output on a sort of quarter-to-quarter or year-to-year basis ...So that has been a much more real-time management of peoples' research, not management, monitoring is a better way of putting it, of peoples' research output and that's been quite exposing for quite a number of people and then you know, where people have been seen to be, not performing particularly well then that's been followed up with meetings with the Dean (Academic Interview N.5)*

Broader institutional constraints regarding what constitutes good research and the pursuit of 4 \* publications were also considered a source of tension at this level.

*There are real institutional needs to address different sorts of research output, , and I think there is a legitimate critique of the way in which we evaluate and value and assess research, that is, perhaps we overemphasize the incremental exploitation activities to the detriment, not to say the exclusion of the bigger picture or exploration stuff. (Academic Interview N.19)*

Not taking into consideration these institutional constraints was considered a detrimental choice:

*I think there are some cases where this is actually true, where people have actually made their careers by being a pain in the butt for the rest of their community, look at Henry Mintzberg, he was never mainstream and built his career on being an outsider, within this community... But I think these are quite rare cases. The likelihood that you can end up in such a situation that you can*

*build your career based on creative and innovative thinking, outside of the mainstream I think is quite rare. So the likelihood that you succeed in the academic system is much higher if you play by the rules. (Academic Interview N.7)*

Table 5.5. below, provides further illustrative quotes on the tension of autonomy vs. control.

**Table 5.5. The tension of autonomy vs. control**

<b>Illustrative Quotes</b>
I think people felt like, there was this degree of autonomy being destroyed this kind of some highly– high degree of centralization matched with this kind of – this assumption that you can manage academics like you manage people working in a hedge fund. (Academic Interview N.17)
Fear of losing this autonomy leads to many becoming either protective or hostile towards change (Academic Interview N.13)
I think at the moment there is increasing focus on publishing in a very small range of journals, and that's where all work has to go. So there is more and more pressure on people that they have to publish on those journals to make a career.... So there is a sort of specification, if you like, and quantification which has led people to engage in a lot of questioning... (Academic Interview N.8)
Usually you know, you can just, well, be an entrepreneur and kind of be yourself within the organization and you get by. So it's very hard to actually control academics and control their work because the nature of universities and the nature of academic work I think will not allow for this kind of control. And it's also not very much appreciated by academics certainly. (Academic Interview N.7)
A challenge with the faculty in the School, which is a characteristic of any transformational change period, is that people feel threatened, they feel undervalued, they feel, you know they are having power and control taken away from them (Academic Interview N.4).

Then I think that most people really the kind of spark that concerned people was this decline of either individual autonomy in terms of being able to be the kind of, you know, scholar/teacher which they wanted to be or I think probably more importantly kind of collective autonomy in terms of I suppose the groups or different parts of the groups, at least having some say over decisions which were made which were going to affect their lives in a sense. (Academic Interview N.17)

I think people have such autonomy that I think there's a fear that they might lose that in this process; so they become a little bit protective. (Academic Interview N.9)

***Mode of Balancing: Controlled Exploration.*** In order to manage this tension between the individual need for autonomy and freedom and the institutional constraints of research productivity and organizational demands, academics described a process of what we call as “controlled exploration” in their pursuit of innovative research. Defined as the process of finding a middle ground between the opposing poles exploration and exploitation, controlled exploration allowed for some room of experimentation within a specific set of boundaries. This process of managing the tension of autonomy and control was based on transforming the paradoxical tension into a more workable entity, a process that is defined in the paradox literature as transcendence.

One member of academic faculty described this process as “*working within the freedom that you see you have*” (Academic Interview N.18) whereas another elaborated:

*... Because there are always limitations floating around; it's like bringing them together in a particular form which then provides you with the framework within which you can do your work. (Academic Interview N.8)*

This process of controlled exploration was based on incremental rather than blue sky innovation, grounded on existing knowledge.

*I think true genuine innovation of the kind that leads to some sort of transcendence is exceptionally rare and most vast majority of academics will never achieve anything truly innovative... and that's in no way intended as a criticism. I think it's just reality, everything we do tend to be kind of quite incremental. Everything we do is very heavily grounded in what's done before and that's partly because of the conventions of scholarship (Academic Interview N.10).*

However this process of controlled exploration was not perceived as necessarily having a negative impact on research impact.

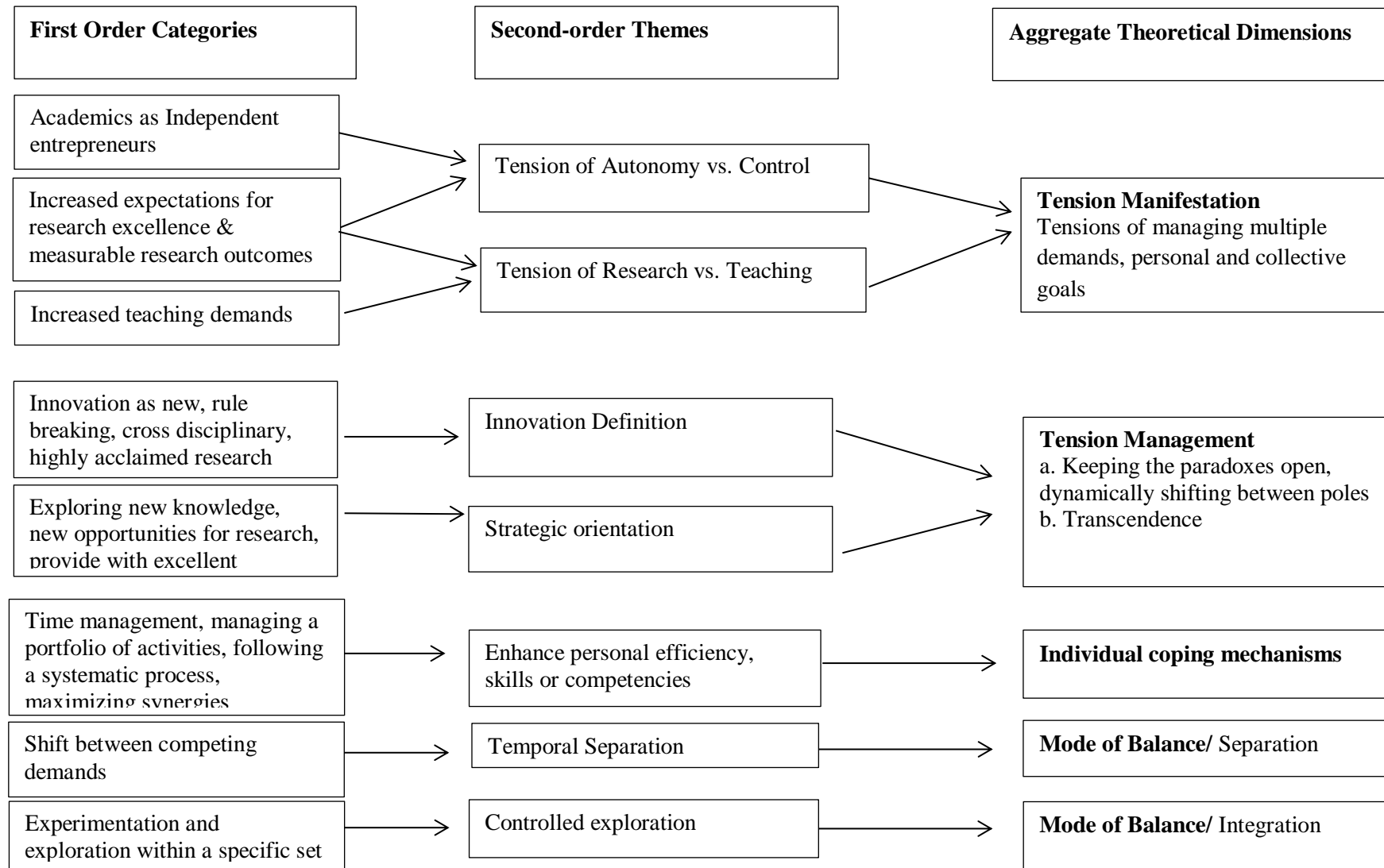
*I think one comes to want to and one comes to be in a position to be able to consider the bigger, more kind of exploratory possibilities and I think there is something about reaching a point in your career where you've been in touch with a set of issues or areas or phenomena or theories or methods or whatever for sufficiently long that you kind of start to have something more to say, a bigger thing. And I sense that in myself and I'm not quite sure about it yet but... so I think there is something in that more macro perspective. (Academic Interview N.13)*

Table 5.6. below, summarizes on the latent tensions stemming from managing multiple demands as these were manifested at the academic level and the mode of balancing that was pursued at each case. Figure 5.2. further illustrates how themes emerged from the data following the coding process of analysis.

**Table 5.6 Ambidexterity tensions at the academic faculty level**

<b>Managing multiple demands</b>	
<p>Basically you've got to be good at everything you touch. So, you've got to be excellent in your research output but also excellent in teaching and excellent in research you provide to The School through supervisions (Academic Interview N.4)</p> <p>To succeed on multiple of those fronts I think is very difficult... I think it's going to become much more normal, in a way much more required...that people are much more ambidextrous; that they are better able to engage on a continuous basis alongside each other with these different sorts of challenges (Academic Interview N.19)</p>	
<b>Underlying tensions</b>	<b>Mode of Balancing</b>
<p><b>Research vs. Teaching</b>            There is a need to implement all areas of work, research, teaching, administration and that means there are demands on one's time and the extent that there are demands on one's time, you know, the teaching demands and admin, those could be constraints, the remaining time is for research (Academic Interview N.12)</p>	<p><b>Temporal separation            (dynamically shifting between different demands overtime )</b>            You have to have some mechanism for allocation of time and intellectual commitment rather than trying to do everything simultaneously. (Academic Interview N.15)            That really does I think come down to people's individual capabilities and I think how brutal one is prepared to be in terms of saying this is protected time for research, or his is the day that I am going to be teaching, so nothing else is going to interfere with that (Academic Interview N.13)            It's very hard when you have this small slices of things you have to do rather than being able to that all week to work on something which is actually what it really takes to do something properly, research at least, you need good amount of time. So I often have this sense of having these huge amounts of demands, which I can never really get rid of very different things which then require switching between them. (Academic Interview N.8)</p>
<p><b>Autonomy vs. Control</b>            The tension between autonomy and control... educational organizations are loosely coupled systems. It's very hard to actually control academics and control their work because the nature of universities and the nature of academic work I think will not allow for this kind of control. (Academic Interview N.16)</p>	<p><b>Controlled exploration</b>            By creating limitations sometimes. It's like you know... Because there are always limitations floating around; it's like bringing them together in a particular form, which then provides you with the framework within which you can do your work. (Academic Interview N.8)            It's a form of fairly traditional incremental innovation you know. Let's take theoretical perspective A, apply it to problem area B, that we haven't before; and see what to make of it. within a paradigm or within a conversation or a literature, that sort of work can be quite thought provoking and in a sense innovative but not really radically innovative.(Academic Interview N.13)            If you want to think of areas to do further research, you have to draw upon on what's existing and build upon on it that's the best way (Academic Interview N.12)            So I think the creative challenge for me, is to work how you get in those journals with innovative interdisciplinary research and how you position yourself to make that achievable... You can't take down the system that already exists so how do you work within it. (Academic Interview N.11)</p>

**Figure 5.2. Data structure based on coding process (case 3)**



### **Barriers to innovation and the role of supportive organizational context.**

Shifting from the various tensions stemming from the pursuit of multiple demands, academics also identified a number of organizational barriers that created a hostile environment towards innovation and change (see Table 5.7). These barriers were stemming from the school's internal bureaucratic processes that made any change initiative a long and painstaking endeavor and the fragmented organizational culture that left little room for synergies and collaboration.

In that context, apart from the individual coping mechanisms for dealing with the tensions of multiple demands, academics underlined the need for a supportive organizational environment that would not only articulate expectations but that would also create the conditions within which these expectations could be met. The literature on contextual ambidexterity (Gibson & Birkinshaw, 2004) also underlines the role of a supportive organizational context for individuals that would allow them to deal with conflicting activities. The resulting type of this contextual approach to ambidexterity is individuals' behavioral capacity to wear two hats, and make their own judgment on how to divide their time between different activities.

In the context of the School, the role of a supportive organizational environment was identified as instrumental in order for individuals to cope with increasing demands.

*So I think we do face a different set of pressures today but I don't think we've done a lot by way of thinking fundamentally about either the composition of the academic role itself or support for the academics within that... We can't just keep asking people for more. We have to try and find a way to meaningfully support that and so really the research office is an attempt to try and offer us better support in that way. ...So it isn't just that*

*we're asking you to do one more thing but that there is a place and an organizational system that's going to help you do that. (Academic Interview N.19)*

Research excellence was perceived to be more than achieving individual performance but rather creating an environment with broader crossovers where people would feel part of a community of research excellence.

*Research excellence isn't just about individual performance, it's about creating an environment ...people wanting to be there beyond just this is an ok place for me individually now to this is a place that's performed highly across time and has a particular kind of reputation for doing that, trains research leaders etc. (Academic Interview N.17)*

A crucial step towards providing a supportive organizational context that would allow for individual academics to respond to multiple demands more efficiently and creatively was the alignment of the School's incentives, structure and culture towards the imperatives of the new strategy.

*The problem of what we've said is our ambitions are higher and the breath of the different sorts of things that we're doing is broader I think in a matter of ways and yet we haven't fundamentally addressed that through any specialization or indeed differences in training or things we're really looking for in recruitment. (Academic Interview N.19)*

The table below offers further illustrative data on the organizational barriers to innovation and change, whereas the following Figure 5.3. resumes on the main findings at this level and their interrelationships.



**Table 5.7. Organizational barriers to change**

<b>Internal Processes</b>	
<i>Bureaucracy</i>	<p>I think there are features inside the School about slowing down or blocking innovation through administration. Definitely through structure, structure definitely blocks in The School as well as in the university. And we also have issues of administration, different committees, etc., etc. So I'm trying to do a relatively simple thing, which is actually necessarily for efficiency. It's a positive thing because it's going to benefit our post-grads and it's going to benefit our under-grads and it'll also benefit The School, for both of their reasons and on top. So three major wins, right? It took me about a year to finally get agreement, and I've finally made four presentations to four different groups and I thought I had everybody right in but that's how long it took.(Academic Interview N.2)</p> <p>My colleague resigned off the project because she just could not stand spending any more time, she said, with all the politics and all the bureaucracy (Academic Interview N.3)</p> <p>We are fairly heavy on reviews and paper trails and all the usual bureaucratic stuff. I mean it annoys me slightly that the university keeps going on about our entrepreneurial gene, etc. and I have never encountered a more bureaucratic slow-moving organization in my life. It's slow even by university standards and that's saying something. But, so, yeah, there's a lot of processes. (Academic Interview N.15)</p> <p>Well, I mean it could start with stopping the bureaucracy. Well, that's a simple thing, but then you need to replace with some kind of structures, which are most elastic or I don't know something, which sort of recognizes...you know, which allows some trial and error kind of things and you know people to try out and fail and, you know, that's the thing, but at the same time have something, it's like, you know, tight rope or the loose rope (Academic Interview N.6)</p>
<i>Internal Structure</i>	<p>If you look at the committee structure and the government system, if you wanted to stifle innovation, I mean this is what you would design, something where there is very little incentive for anyone to change anything because the amount of hassle that's involved. The only innovation you would really get is because I think the determination of individuals change things they don't like. (Academic Interview N.4)</p> <p>Innovation is contrary to popular belief, actually quite tricky. We have had committees and things like academic control, which appear to have been set up to stifle any innovation of any type in teaching programs down to the minutia of, you know, if you want to try a different way of assessing a module, it's actually you have to go to a committee, get permission and they have to go to the university and get permission. So, most people can't even bother. (Academic Interview N.15)</p>

**Organizational Culture**

*Silo Mentality*

We have this functional specialization across the subject groups, with very tight vertical silos organized around the subjects and disciplines with very little transfer of knowledge or information between them apart from individuals who choose to work together and actually quite a lot of conflict and political behavior to protect domain turf wars (Academic Interview N.4)

So we have silos, so we have horizontal structural problems and we have... we also I think have, something of hierarchy yeah. (Academic Interview N.3)

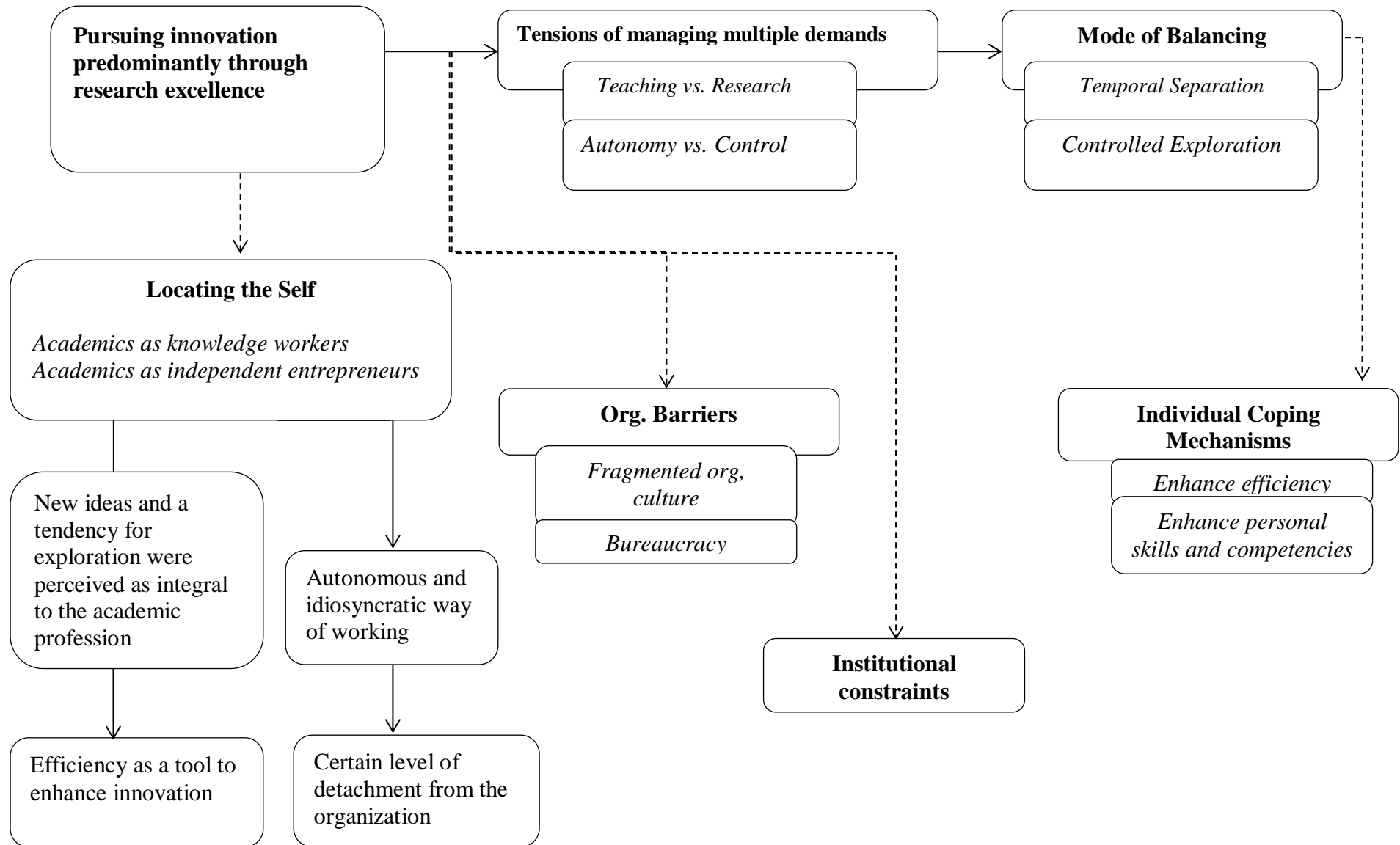
Another way to improve innovation is to build up good virtual communities of practice. We have ours but I think the participation is not very active for most people because I mean that's a long way to overcome the barrier of lobbying here (Academic Interview N.2)

I think people become kind of siloed in the sense that they self-define in a way that almost excludes kind of interesting research. You know they say, well, that's not really what I do, you know, phrases like that I've heard hundred times. (Academic Interview N.13)

*Fragmented culture*

I think it's quite a difficult thing to say that The School has one culture. There are..., partly that's to do with the fact that actually we work in quite separate and differentiated groups, those groups are quite tightly focused (Academic Interview N.5)

Figure 5.3. The Academic Faculty: Managing tensions of ambidexterity. – Analytical Diagram



### **5.3. Driving efficiency and change at the administrative level**

The previous sections analyzed the organizational approach to ambidexterity in The School which followed an approach of structural separation under the common leadership of the top management team which was responsible for integrating and managing demands for both innovation and efficiency. Organizational separation has been widely recognized as a key approach to managing the dilemma of ambidexterity (Cae et al., Jansen et al, 2009, Jansen et al, 2005, He and Wang, 2004, Tushman and O'Reilly 1996, Tushman et al, 2003) and in the context of higher education institutions, administrative mechanisms allow the organizations to attend to dual demands through their focus on operational efficiency (Ambos et al., 2008).

In the context of The School this structural separation was made more evident through the process of organizational change that placed administration more firmly at the supporting role of innovation and research excellence. In order to achieve a high level of efficiency through operational excellence the administrative mechanism underwent a significant restructuring aiming at streamlining internal processes.

The EQUIS evaluation process for The School in 2011 also highlighted some of the administrative issues that were considered significant at the time<sup>27</sup>:

- a) The need for a review of the deployment of resources between academic and administrative staff in order to address opportunities for administrative efficiencies and better use of financial resources.
- b) The potential in streamlining the number and operational role of committees.
- c) The cross utilization of resources within the extensive range of programs

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<sup>27</sup> (Source: Publically available EQUIS Evaluation Report, 2011)

The new management team aimed to address these issues. Pursuing efficiencies through a series of internal review processes and restructuring efforts at the administrative level was considered to be a key factor for facilitating a more flexible operation. The organizational changes that were brought forward by the new management team aimed at increasing The School's overall operational efficiency following the principles of lean management. In that context an extensive review process aimed at uncovering room for synergies and better use of administrative resources. Within that context an operational excellence committee was established in order to promote changes in the internal processes that would lead to greater efficiency through the better use of resources and the introduction of new systems: A key contribution of this committee was introducing members of staff to the basic principles of lean management:

*The operational excellence activities that we are doing have to ensure that they are addressing strategic requirements of The School. So when we are prioritizing improvement opportunities we're asking ourselves are these of strategic importance, do they fit with The School's vision and mission and so on. So the Operational Excellence Steering Group now nearly four years down the line is still designed to evaluate improvement opportunities, to promote the concept of lean across the business The School (Admin. Interview N.3)*

Within the context of the wider organizational change the strategic aim for the administrative system was to ensure that resources were deployed appropriately avoiding duplication. Following a review of the MBA and Masters programs, administrative support was restructured around groups of programs, rather than individual programs, bringing a level of standardization to the internal processes and

was physically relocated to an open plan structure that would bring them closer to the students.

*The principle behind it was, rather than having an administrative team to support a program an administrative team would support a market group, so a number of programs... This allowed practices to be standardized; for example standard practices in terms of how an enquiry is dealt with, how something might be filed, what is used as a response. If you have those for a smaller number of bigger areas that's better and more efficient than having a lot of different ways of doing things for a lot of different programs. (Admin. Interview N.10)*

Furthermore, through a wider application of systems and resources, the School was able to explore further opportunities. The advanced IT system that was in place for the long distance MBA was strengthened in order to accommodate more programs with similar needs. The Shakespeare initiative project for example was based on the elaborate IT platform and service delivered to distant MBA students and there were considerations to also broaden this advanced level of service to enrich undergraduate teaching opportunities.

*Teaching Shakespeare initiative within The School is effectively a non-business course is being run off our platform because our platform has been quite a success. We built it from scratch ourselves, it's not as if we bought in a system off the shelf. So I think it's right to try and progress that development even more, to give it new challenges in the sense of new products potentially running off that platform and interacting with that platform because it then develops as a whole when you test out what it can really do under new circumstances; to make say the undergraduate experience more efficient and more technologically able to support classroom learning as well as distance learning (Admin. Interview N.10)*

Apart from the internal restructuring and process improvement initiatives the organizational change also affected the internal governance of the School, by shifting management accountability more firmly at the top management team. Over the years The School was considered a heavily administratively led school, with a substantial number of committees where administrators would hold senior positions. However, following the organizational strategy for research excellence as a key driver behind all of The School's operations, management accountability shifted more firmly towards the top management team (comprised mostly of senior academics) and the Dean. This shift in the internal governance of The School brought a subsequent shift in the role and function of the administrative mechanism within The School.

*The School is divided into a number of subject groups and these were then supported by overarching administrative areas, so we had senior strategic roles for the administration. Now, the dean's vision was that the administrative support really needed to come under the governance of a senior person without the functions within the administration reporting interoffice. So that management accountability needed to sit more firmly at departmental level and of course the department is the business The School and he is the head of the department as the dean. (Admin. Interview N.12)*

These organizational changes in the internal structure made the distinction between innovation-focused academic faculty and efficiency-oriented administrative members, even more clear.

*The academia is what we're working in so they need to be driving that, the administration could just run on the sense of just looking to be cost effective, just looking to be solely efficient. (Admin. Interview N.10)*

**Internal turbulence.** The transition towards a new status quo however was not without the tensions and conflict that follow deep organizational changes.

*So a lot of people are changing, a lot of people are in the process of changing their job roles so they'll be doing different things for the next couple of months. People will be doing a lot of different things than they have done previously. In some cases people have been doing the same job or same sort of job for a number of years. So changing job roles, changing the way people do things as well, is and will be a major change, people are very used to these local practices so it will be breaking that cycle of doing things. Doing it in a different way. (Admin. Interview N.9)*

The vision for “becoming leading university based business The School in Europe” was well understood however, there was a level of detachment towards this goal, as if the vision did not really include administration.

*The Dean has been very clear in that he wants the business The School to be the leading university based business The School in Europe... so the big drive for the change process is to address the research agenda and so we're finding that whatever meeting, whatever discussion we're having, the topic will always come back to research, how do we improve our research performance. (Admin. Interview N.2)*

This feeling of detachment was also enhanced due to the fact that many administrative members were unclear about the changes that were to be implemented.

*Perhaps there is a sense that they are not as clear as what the sort of objectives are and whether it is just to get the job done or whether it is to sort of show that they are thinking about things differently... And there is a lot more monitoring and sort of reporting that happens now. So I think people... we're still in the stages where people are not certain about what they should be doing. And that's probably one of the causes of the sort of some of the conflict that's happened more recently; possibly just, yeah, lack of clarity about what people... what's expected. (Admin. Interview N. 1)*

The Table below summarizes the basic pillars of the organizational change efforts at the administrative level.



**Table 5.8. Organizational change at the administrative level**

<b>Enhance Efficiency</b>	
<i>Avoid duplications</i>	<p>There have been elements of the administration that haven't previously worked well together because they might have been doing similar jobs at some point and then they kind of broken off and I think it's about bringing that core direction back into the administration so it works together as a whole, because it's a kind of classic united we stand, divided we fall. If the administration is very divided and pursuing different agendas that's expensive but it's also very inefficient (Admin Interview N.10)</p>
<i>Better use of resources</i>	<p>There's certainly more of an effort now to homogenized the processes across the board than perhaps there was before and that's sort of come with a more kind of a review of the support structures in many places. So there's been a move to bring everything together a bit more and make things a bit more homogenous and to make things within that grouping more flexible in deployment of staff when it's needed. (Admin Interview N.9)</p> <p>Becoming more efficient with what we've already allows us to free up resources potentially so that we can include new initiatives or new courses within those resources. (Admin Interview N.10)</p> <p>We'll restructure the back office support to gain economies of scale and efficiencies where we can and just keeping a very close eye on other cost scenarios of existing activity whilst we're trying to bring these new things in (Admin Interview N.5)</p> <p>The back office support should be more streamlined and more functionally organized rather than locally based. So then actually the objective would be to have, for example, a graduate school for the Business School that pulls together Masters teaching, MBA, MPA, and anything at post-graduate level. The support for that would be under one roof. So those involved in program management or in dealing with issues of timetabling or exams, et cetera that are currently discrete or dotted around the school, we'd pull those under one line management system and into the same space and achieve economies of scale that way(Admin Interview N.5)</p> <p>For MSc Finance, Finance and Economics, Financial Math, and the new Accounting and Finance degree we have put a common core of modules into those programs. We brought our common core together. So there will be more common delivery. And we've reduced the number of discrete modules. So there are fewer modules that carry more weight each and again I think makes for some more efficient use of academic time (Admin Interview N.5)</p>
<b>Shift of governance</b>	
<i>Academics driving the change</i>	<p>Previously we'd become very administratively driven and that's dangerous because it's academics that are doing the teaching, it's academics that are doing the research and the administration needs to stay very close to that element and</p>

	<p>that stimulus. What has happened under this regime is that we have moved back to the idea of academics being at the heart of what we do and driving the change, which is if you look within the university that's the same case. There's various pieces of research that say universities that are successful are the ones that have that academic buy in at the very top level because we'd run the risk of becoming too administratively driven (Admin Interview N.10)</p> <p>obviously anything that you do like that, you need to look at sort of what you're trying to do, what it will achieve and also cost of course and I mean I am not involved in those decisions because I am not an academic. So the innovation really is coming from the academics (Admin Interview N.1)</p>
<i>Centralized Decision making</i>	<p>It's now more of an executive decision making control, a kind of clearer kind of structure to decision making in The School, the sorts of committees that were there before have been reviewed and thinned down in certain places and reconstituted or abolished in other places. So the central steering committee of the business The School is very clearly the decision making committee for anything very important within The School, where as previously some of that top level decision making might have been made by a number of different kind of senior level committees, so there's a sort of stronger direction in that (Admin Interview N.9)</p>

**The role of efficiency and innovation at the administrative level.**

In structural ambidextrous organizations, exploitative units are described more centralized, with tight cultures that focus on maximizing efficiencies and control through process management (Lavie et al. 2010; Benner and Tushman, 2003). With a clear focus on exploitative activities this organizational unit shared goal of operational efficiency.

*... Efficiency means doing the right things better or, you know, as well as possible. So it's certainly right to be – to be looking at how we do things. As I said, how – what are we doing? Are we doing things for the right reasons? And then are we – are we actually executing them as well as we can do? So yes, it has been the key priority and will continue to be one. (Admin Interview N.1)*

The role of efficiency in order to provide slack for innovation was very well embedded within the administrative level. In that context, efficient administration was

considered as a supporting mechanism for The School’s exploratory activities in teaching and research.

*I guess by being more efficient you are releasing capacity in the organization to innovate. If you are fire-fighting all the time because you have got broken processes and, you know, unmanaged workloads then you can’t innovate because you are too busy fire-fighting ... but if the operation is running effectively, you can be innovative and proactive. (Admin Interview N.3)*

Whereas pursuing efficiency was perceived as the key role for the administrative department, innovation was also considered a valuable means towards achieving this goal, in the form of incremental innovations integrated within everyday work. This type of innovation was driven by the need for increasing administrative efficiency, either at the organizational or the individual level.

The table below demonstrates the interrelated processes of innovation and efficiency at the administrative level.

**Table 5.9. Innovation and efficiency at the administrative level**

<p><b>Definition of innovation</b></p>	<p><i>Innovation as process improvement</i></p>	<p>The administrative and support staff would be able to generate some good ideas around improving our organization’s effectiveness that’s because it’s them who are more consistently undertaking day to day administrative process led activities. (Admin Interview N.3)</p> <p>I think in the area that I work and our team is quite good at improving things and seeing things that don’t work very well and then changing them to make them better. And we are quite fortunate that we sort of have the support of our managers to sort of do that and improve things where we see that they can be improved... look at a process and see where things are going wrong and think about ways that they can improve them. (Admin Interview N.7)</p> <p>Looking at ways in which we can innovate or change processes to make them more smooth (Admin. InterviewN.1)</p>
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<p><b>Innovation and Efficiency relationship</b></p>	<p><i>Complementary</i></p>	<p>Although its focus was on efficiency it was innovation in a way that efficiency was delivered and so they were very complementary in that respect and a lot of it was focused on administrative processes. (Admin. Interview N.4)</p> <p>So you can use various process efficiency tools or lean management tools to then innovate in terms of the administrative processes. (Admin. Interview N.4)</p> <p>I think you can be innovative in your methods and efficiency and I like to think that that's what I am so I have some ideas about how I want to make things more efficient (Admin. Interview N.2)</p>
<p><b>Mode of balance</b></p>	<p><i>Integration</i></p>	<p>I mean in my own sort of tiny little area I try to do that so when we've got some things that we're doing differently this year and I've got some ideas about things that I would like to try to do differently. Sometimes we get stopped though because there is still the university there with its regulations and we still have our course regulations so we can't sort of, completely jump outside of all of those underpinning regulations that we have, but you know we will sort of always try to see if there is some way we can...Go around that. (Admin. Interview N.11)</p> <p>I think if you spot something that's stopping you doing something efficiently then of course you need to, you know stop and have a look at the process and decide whether it needs to be changed or if there's anybody else doing something better...(Admin. Interview N.11)</p> <p>I've been in the role a year and in that year I and my team have had lots of ideas of how to change things and move things on from the way things had previously been done so that's been welcomed and embraced and encouraged. Any good ideas are taken on board. (Admin. Interview N.9)</p>

*The role of a supportive organizational context.* Similarly to the academic group, members of administration also highlighted the importance of a supportive organizational environment that would allow for grass roots innovation in terms of

operational excellence. Within a heavily process led administrative context, the importance for some level of built-in flexibility and empowerment was underlined.

*So, it's trying to get that magic, sort of enough control and coordination so that you are all working towards a common vision but without making people feel so frightened that they just don't see why they should do invest any effort in it. There's always the tension in trying to have a systemized way of doing things so that the people reassured that it has been looked at in a systematic way without beating out all of the innovation. To get innovation coming from all areas of The School, you got to empower people. They have got to want to do it. They got to feel motivated to do it (Admin. Interview N.2)*

Another issue was the difficulty to embrace change within traditionally established practices. The issue of sharing a collective vision was thus important.

*I guess traditionally people have some control over a process and they don't necessarily want to relinquish that control even though it might be more beneficial overall. It's sort of still having that I don't know... sort of making everyone feel that they are part of the improvement... (Admin. Interview N.4)*

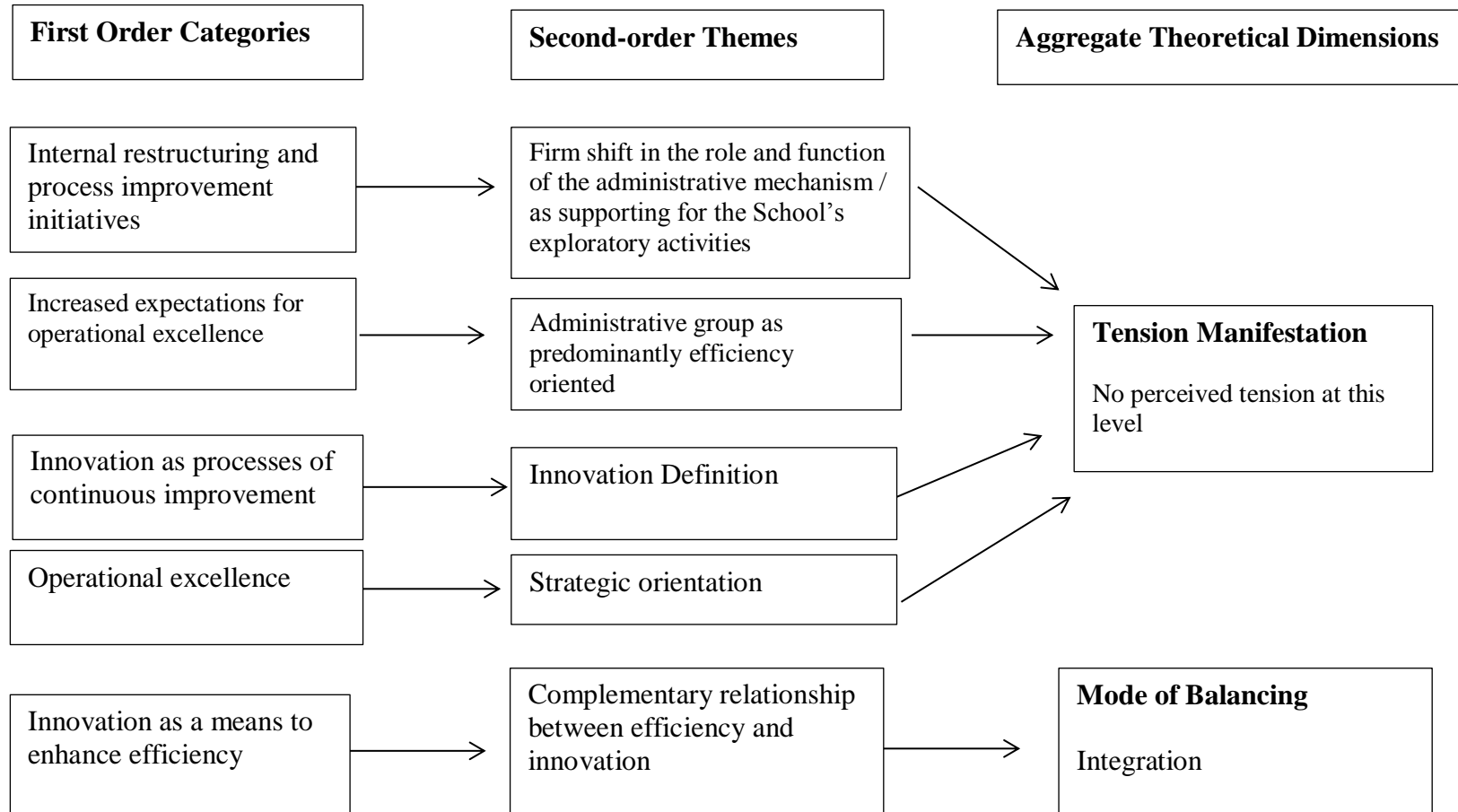
Lastly the fragmented organizational culture and the bureaucratic processes were also considered a hindrance towards introducing new ideas.

*And I think the other thing is just trying to break down the barriers, not just in that new kind of department but between other departments. So we all kind of share and practice. It's very difficult actually. It's such a big The School that it's very hard to kind of know everything that's going on to kind of understand, oh, am I doing that? Or should we be aware of that? It's kind of – I suppose communication then is a big challenge. If you're going to work more efficiently and effectively, you kind of have to know what everybody are doing and how you fit in to that... So we kind of need something that's more fun and more informal way of communicating, not just one way but both ways. It's just about being collegiate, you know. And collegiate is not just having the*

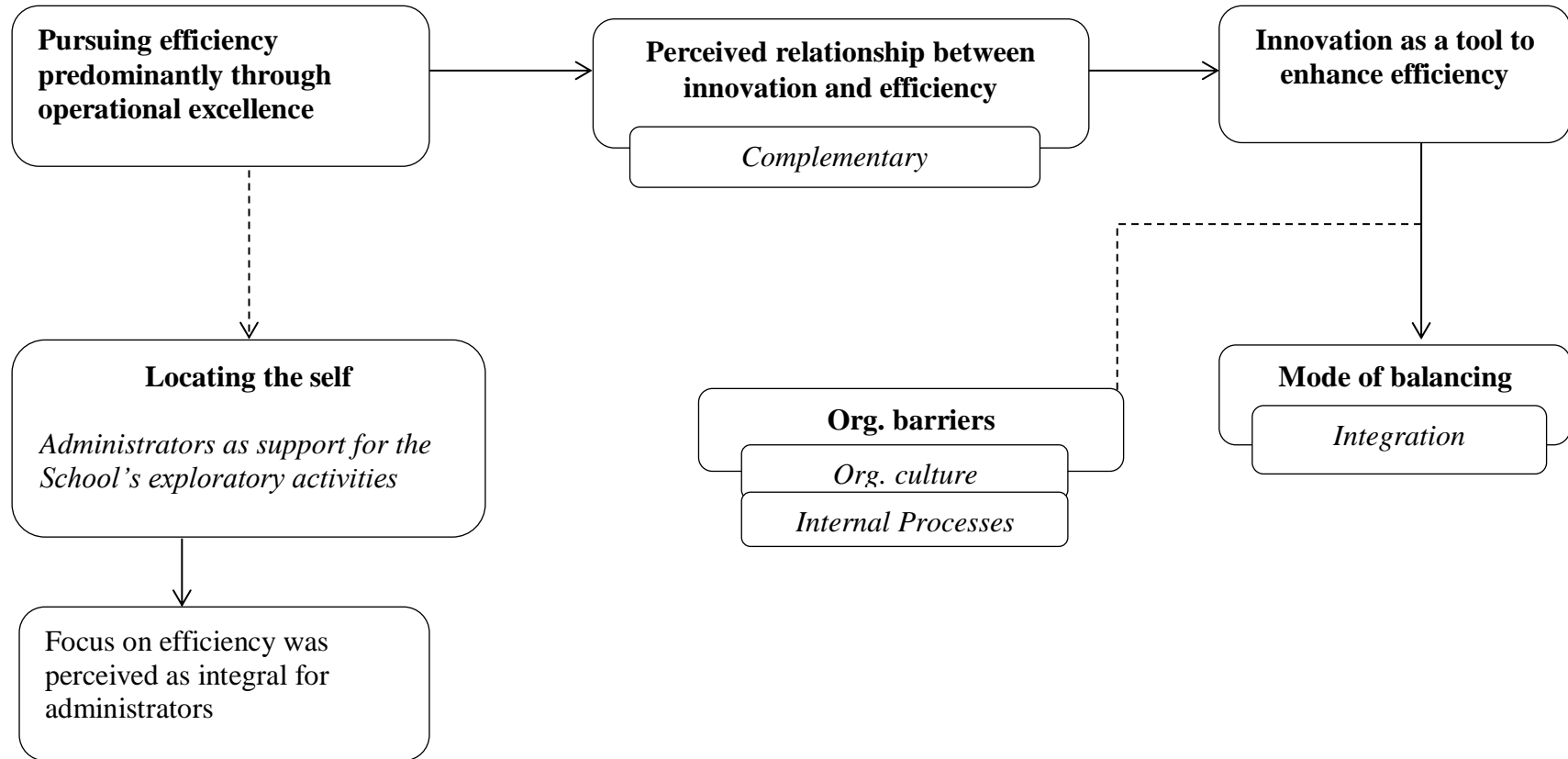
*same kind of vision of The School. It's also about, you know, being a community. I'm not quite sure we're there yet. (Admin. Interview N.11)*

Figure 5.4 demonstrates how themes emerged from the data at this level of analysis and Figure 5.5. elaborates on the interconnections between key findings. Contrary to the other embedded cases presented so far, at this level of the School, there was no perceived tension between efficiency and innovation. Whereas innovation, in the form of process improvement was integrated within everyday practice this was more based on intrinsic motivation rather than the result of a formal organizational demands as was in the case of Telco (operations/ middle management). This finding also coincides with the structural approach to ambidexterity that was followed at the organizational level, where innovation and efficiency demands were structurally separated within different organizational units.

**Figure 5.4. Data Structure based on Coding Process (Case 4)**



**Figure 5.5. Innovation and efficiency at the administrative level**





## **Summary of key findings**

This chapter presented the analysis and findings on latent tensions of ambidexterity in the case of the School. Following a case background where the organizational approach to ambidexterity was presented, the subsequent sections focused on how tensions stemming from an ambidextrous orientation were perceived and managed at two organizational levels (the academic faculty and the administrators). Findings from this case contribute to the theory on structural ambidexterity which argues for a structural separation of divergent demands. In this case the organizational approach to ambidexterity was pursued through the separation between efficiency and innovation goals; innovation was mostly pursued through research excellence by the academic faculty, whereas efficiency was mostly linked to operational excellence by the administrative team. However, whereas theory on structural ambidexterity perceives separation as an adequate means for dealing with tensions, research findings suggest the emergence of latent tensions related to efficiency and innovation even within ‘monodextrous units’. Moreover in both cases the role of a supportive organizational context (incentives, processes, structure) is highlighted as key for the management of the tensions, suggesting the need for ambidexterity of the contextual type, even within cases of structural separation. Theory on ambidexterity to date has suggested the complementarity of both approaches (structural-contextual) however there is very limited empirical evidence that explores the links between the two approaches.

The following chapter will present key research findings from both case organizations (Telco and The School) as well as a cross case analysis of underlying themes within and across all four embedded cases.

## CHAPTER 6. CROSS CASE ANALYSIS

### 6.1. Managing tensions of efficiency and innovation at Telco

Telco, one of the largest providers of telecommunication equipment and related services in the world has recently undergone an organizational restructuring that reflected the company's new strategy: capitalize on existing competencies to find new opportunities for growth while maintaining operational efficiency. My research in the context of Telco was focused on how tensions of innovation and efficiency were perceived and managed at different levels of the organization, following the announcement of a new corporate strategy, which focused on both demands. This research focus was operationalized through the selection of two different groups within the Services Business Unit of Telco; the senior management and the middle management/ operational group. However the broader organizational issues that affected how ambidexterity was pursued were also part of my study.

At the firm level, innovation was considered one of the key strategic imperatives, communicated broadly through the "innovate every day" mantra and supported by an internal innovation management scheme (called "Idea Boxes"). As innovation was shifting from being an exclusive domain of the R&D departments, this context provided a fruitful ground to explore how tensions of efficiency and innovation were perceived and managed at different levels of the organization.

Research findings suggest that tensions of innovation and efficiency are spread throughout the organization and cannot be isolated only in one part of the organization. Each level deals with a different type of tension and follows a different mode of balancing. For example the TMT has to deal with the strategic

tensions of innovation and efficiency while lower levels have to deal with the operational tensions of these two demands. This finding then agrees with Bledow et al. (2009) who argues that whereas tensions stemming from the pursuit of radical innovation are expected to be more pronounced within organizations, incremental innovation also poses some challenges in the established organizational logic since it entails some degree of newness.

Whereas research on ambidexterity so far has typically identified the relationship between exploration and exploitation as contradictory, findings suggest that how organizational actors perceive this duality can take various forms, within different organizational levels. Depending on the conceptualization of innovation at each level, the tension between efficiency and innovation was perceived and managed in a different way. At the operations/middle management level, efficiency and innovation were considered complementary processes while for senior management exploring future opportunities while exploiting current activities were considered either conflicting or interrelated. More specifically three main relationship types between innovation (exploration) and efficiency (exploitation) were identified:

*Complementary (Operations / middle management level):* Through conceptualizing innovation as a process of continuous improvement, at this level the relationship between innovation and efficiency was considered complementary, “a means to an end”, and was embedded within everyday practice.

*Conflicting (Senior Management):* Here innovation and efficiency were perceived as contradictory to each other, based on competing resources and a tension between the present and a future orientation. At this level tension

management was pursued through temporal separation.

*Interrelated (Senior Management):* Here both activities were perceived as distinct but equally necessary and tensions were managed through structural separation (parallel structures).

These different conceptualizations were followed by different modes of balancing in each case suggesting that different modes of balancing co-exist according to the nature of the tensions that arise at different organizational levels. These findings agree with Ying et al. (2008) who propose that different possibilities to combine knowledge within and across value chain functions provide different opportunities for organizations to pursue ambidexterity.

Another key finding was that these three relationship types corresponded to three main strategic orientations within the organization. Firstly, defending existing business (at the operations/middle management level); secondly, growing existing business; and thirdly, exploring new opportunities for growth (at the senior management level). In a similar note, Auh and Menguc (2005) explored the distinction between defenders and prospectors and the impact of pursuing exploration or exploitation strategies on research performance; their findings were that exploration was more positively related to firm performance for prospectors that exploitation and vice versa for the defenders. However, this research takes this argument further by proposing that different strategic orientations (similar to Auh's and Menguc's defenders and prospectors) can co-exist within a single organization leading subsequently to different manifestations of the exploration-exploitation tension.

Exploring new opportunities for growth at the senior management in Telco was based on reconfiguring existing competencies or exploring new ones to gain

new customers and penetrate new markets. Tensions at this level stemmed from the need to simultaneously balance the exploitation of current operations with an exploration of future ones, finding a balance between new competencies needed to compete in new sectors, versus traditional competencies and their historical legitimacy and integration and separation of the different business units.

In pursuing new opportunities for growth Telco maintained a balance between structure and freedom, which we label “controlled exploration”. This process towards innovation allowed the company to both explore new opportunities and also maintain control through pursuing a specific number of market opportunities where it could have a quick return on investment. In order to accommodate tensions between traditional and new business areas, Telco initially pursued innovation opportunities through structural separation. However, this structural separation was based on parallel structures that were not fully isolated from the rest of the organization: pilot projects operated within a specific timeframe and with a goal of assessing an opportunity that would at a later point be integrated into the operations of the main organization. A close collaboration was pursued between the top management team afforded with the responsibility of strategic co-ordination, and the regions. However, as these parallel structures did not operate in complete isolation from the rest of the organization a new tension was emerging from the need to pull the necessary resources from the organization during the exploration phase, and introducing new areas for growth within a conservative cultural environment during the implementation phase. The emergence of new tensions highlights the perpetual nature of dealing with paradoxical tensions whereby the solution to a paradox in one level gives its place to the emergence of a new one (Luscher and Lewis, 2008).

On another level, growing existing business was related to new organizational configurations, or new knowledge, aimed at existing customers and markets. Senior managers faced with the task of growing existing business described the relationship between efficiency and innovation as conflicting, based on scarce resources and the need for different capabilities to pursue each goal. At this level the tension between innovation and efficiency was based on having both a present and a future orientation, competing on the present but having an eye on the future in terms of growing the existing business (Abell, 1999). This central tension between short and long-term orientation was manifested as a number of sub-tensions that derived from the need to respond to demands from multiple stakeholders. These were balancing proactiveness and reactivity (in Telco's relationship with the customers), dealing with both structure and freedom (in managing the internal demands for both innovation and efficiency), and managing the relationship between predictability and uncertainty (in terms of gaining trust and credibility within the organization in order to justify the different resource allocation or investment for innovation and accomplishing the necessary changes). Senior managers who pursued innovation activities within an efficiency-oriented environment managed the tensions between the opposing processes through temporal separation, locating efficiency and innovation in different time frames (periods of focus on efficiency followed by periods of higher focus and investment on innovation). At the same time, this sequential process was also influenced by broader organizational constraints, such as resource allocation and corporate strategy.

Finally, at the middle management and operations level, employees were responsible for delivering complex professional services for the ICT sector and

were continuously urged to increase the levels of efficiency through constant monitoring and tight targets. The tension of pursuing innovation while maintaining efficiency was at this level resolved through transforming it into a more workable entity consistent with the actors' everyday work life, and based on the linkages between the two poles (Andriopoulos and Lewis, 2010, Lewis, 2000). Innovation in this context was more narrowly defined, as any idea or process that would enhance efficiency. This conceptualization of innovation as complementary to efficiency was very much goal oriented, driven by the need to defend existing business by providing solutions to the customers that were both innovative and cost efficient. Innovation therefore was seen as a means to an end, as a tool towards operational excellence that was considered vital for defending existing business. The table below summarizes the findings from Telco:

**Table 6.1. Innovation and efficiency tensions at two organizational levels.**

<b>Organization level</b>	<i>Operations/ Middle management</i>	<i>Senior Management</i>	
<b>Strategic intent</b>	Defend existing business	Grow existing business	Explore new avenues for growth
<b>Innovation defined as</b>	Doing things better to exploit existing competencies so as to solidify business with existing customers and in current markets <i>(Process innovation)</i>	Reconfiguring existing competencies or exploring new competencies so as to expand business with existing customers in current markets <i>(Business Model innovation, Service Innovation)</i>	Reconfiguring existing competencies or exploring new competencies to gain new customers and penetrate new markets <i>(Strategic innovation)</i>
<b>Perceived relationship between innovation and efficiency</b>	Complementary	Conflicting	Interrelated
<b>Mode of Balancing pursued</b>	Integration	Separation (temporal separation)	Separation (parallel structures)

## **6.2. Managing tensions of efficiency and innovation at The School.**

Shifting away from the ambidexterity tensions faced by a high technology company, the second organization that forms part of this research is a higher education organization, which underwent a transformational organizational change in order to increase its competitiveness and regain its former position among the top 5 UK institutions research-wise within the increasingly competitive UK higher education market<sup>28</sup>. A key challenge in managing change within a higher education institution, described as a complex organization (Clegg, 2008), stems from the need to respond to multiple stakeholders whose interests might not necessarily be aligned (Sillince et al., 2012). These groups of stakeholders, also described as constituencies, assess the performance of an organization based on their particular interests (D'Aveni, 1996). In that context, satisfying multiple constituencies is perceived as a challenging act, not only due to resource constraints but also in cases where a certain combination of constituencies are conflicting, like for example when students prefer a faculty that spends more time teaching than doing research, where research enhances the school's academic reputation (D'Aveni, 1996).

Whereas the foundation of higher education institutions remains the production of new knowledge through research and scholarship, they must also succeed as “quasi-corporate entities producing a wide range of goods and services” (Gumport 2000: 71), competing for custom and resources, as well as reputation, regionally, as well as nationally and internationally (Henkel, 2007). Other documented sources of tensions within higher education institutions include a collegial versus managerial governance; autonomy versus government

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<sup>28</sup> (Source: Published article)



intervention in institutional operation; quality of teaching and research versus quantity in participation; broad versus narrow curricula; curiosity-motivated versus mission-oriented research and academic freedom versus ideological conformity (Karmel, 1990).

In the case of the School the organizational approach to ambidexterity was based on structural separation of innovation and efficiency at two different organizational levels. The academic faculty was mostly related to innovation through research excellence and the members of the administration were responsible for maintaining a high level of operational efficiency. As described in the literature of structural ambidexterity, the top management team was responsible for integrating and managing tensions stemming from the coordination of both orientations. This approach of structural separation is also described in the literature of loosely coupled systems such as education organizations (Weick, 1976) as it allows for both exploration through experimentation and exploitation through fine tuning of internal processes (Lavie et al., 2010). Within subunits the tasks, culture, individuals, and organizational arrangements are consistent, but across subunits tasks and cultures are inconsistent and loosely coupled (Benner and Tushman, 2003). Strategic integration—the ability to drive innovation streams and take advantage of contrasting organizational capabilities—occurs at the senior team level of analysis (Simsek et al. 2009). Active coordination and integration of those units at the top management level, ensures that organizations can pursue both activities (Jansen et al., 2009a), as the top management teams acts as “glue” holding these two separate units together (O'Reilly III and Tushman, 2011). Within the School this role was carried out by the steering group committee, the school's key decision

making body, comprised by the Dean, the Chief Operating Officer and members of the academic faculty with management responsibilities for all the different elements of the school's activities (research, teaching, etc).

This approach to ambidexterity coincides with what Simsek et al. (2009) describe as a structurally interdependent view of ambidexterity. According to the authors this approach refers to organizational units who despite their independent operation are purposefully interdependent in their pursuit of ambidexterity; this interdependency is based on the coordination and productive coupling of efforts and resources.

Research findings from The School case bring to the forefront an approach to managing ambidexterity demands based on structural separation. However, whereas literature on structural ambidexterity considers organizational separation an adequate means to isolate tensions in order to manage monodextrous units (Tushman and O'Reilly III, 1996), findings suggest a more complex organizational reality of latent tensions within innovation-oriented and efficiency-oriented organizational units. This case presents evidence that following a structural approach to managing tensions also demands balancing latent tensions within each level. At the academic level, the role for innovation and exploration through research excellence was highlighted, following the school's vision of becoming the leading university based school in Europe. Research prominence was considered a key strategy for achieving this ambitious vision. Whereas dealing with multiple demands of research and teaching was perceived by most members of the academic faculty as an inherent part of the academic role, the increasing demands at all fronts that followed the organizational change, led to the manifestations of latent tensions within the academic faculty. These latent

tensions, embedded into the process of organizing become salient through environmental conditions (Smith and Lewis, 2011) but also through actors' cognition and rhetoric of boundaries that draw attention to underlying tensions (Ashcraft et al., 2009). These tensions mainly relate to the pursuit of innovation associated with exploration through research excellence and the need to balance competing time demands arising from the need to carry out teaching and administration.

Contrary to previous research that has argued in favor of a distinction between the "priests of research purity" and the "soldiers of organizational performance" as a solution to the tension between knowledge exploration and knowledge exploitation (Trieschmann et al., 2000) findings highlight the need for an ambidextrous individual, able to excel in both areas with equal dexterity (Houston et al., 2006). Innovation at the academic level was mostly linked to research led activities, driven by personal motivation and organizational incentives, whereas efficiency was only considered relevant when it satisfied these demands. Lack of organizational efficiency and bureaucracy, was however considered a major impediment towards the search for exploration and a source of tensions. Balancing the time and resource intensity required for high quality research and the additional increasing demands on teaching and administrative activities was another source of tension for academics. Administrative and teaching demands were in conflict with availability of time to research, leading to a need to prioritize. However as Chandler (2008) underlined the element of agency in that context was rather constrained, as the needs of the individual, the university and the department would seem to conflict or be in tension. In order to cope with competing pressures academics would pursue a variety of strategies

based on temporal separation (for example shifting between periods dedicated to research and periods of intense teaching, or through managing a portfolio of projects and tasks based on a mix of exploration and exploitation).

Another latent tension that was identified within the broader context of organizational change was that between autonomy and control, a persistent tension within the academic profession, rooted in the fine line between autonomous discretion and the institutional constraints (Ylijoki, 2005) that stem from the increasing pressures on higher education to provide a transparent, outcomes-based and consistent model of operations (Turnbull et al., 2008). Within a context of rapid, transformational change in the School this tension was even more evident. In order to manage this tension between the individual need for autonomy and empowerment and the institutional constraints of research productivity and organizational demands, academics described a process that we term “controlled exploration”. This process was based on finding a middle ground between the opposing poles of the tension, allowing for some room of maneuver within a specific set of boundaries.

At the administrative level, following an extensive internal restructuring, individuals were more firmly acting as a support for the school’s exploratory activities by pursuing operational excellence at all levels of administration. At the group level, innovation was mostly linked to incremental changes in systems and processes that would enhance operational efficiency.

At both levels (academic faculty, administration) the role of a supportive organizational context was highlighted as an enabler for individuals to deal with increasing demands. Such a supportive organizational context would not only articulate expectations but that would also create the conditions within which

these expectations could be met. In a similar note Jenkins (2004) argued that the relationships between research, teaching, broader work expectations and rewards need to be defined and managed at the institutional, departmental, and individual levels to avoid potentially undesirable effects and counterproductive behaviors (Houston et al., 2006).

The literature on contextual ambidexterity (Birkinshaw and Gibson, 2004) also underlines the role of a supportive organizational context for individuals that would allow them to deal with conflicting activities. Organizational context is defined by (Gibson and Birkinshaw, 2004) as “the systems, processes, and beliefs that shape individual-level behavior in an organization”(p. 212). The resulting type of this contextual approach to ambidexterity is individuals’ behavioral capacity to wear two hats, and make their own judgment on how to divide their time between different activities (Ambos et al., 2008).

In contrast to contextual ambidexterity, where the locus of exploitation and exploration is throughout the firm (Gibson and Birkinshaw, 2004), structural ambidexterity separates out exploratory from exploitative activities (Adler et al., 2009). However, our findings bring forward the interconnections between structural and contextual approaches, traditionally perceived in the literature as alternative approaches of ambidexterity. In the case of the School, although the dominant mode of balancing was structural separation of exploration and exploitation at the organizational level in different units, the pervasiveness of tensions even within “monodextrous” units brought forward the need for a supportive organizational context. This analysis then contributes to the organizational ambidexterity literature by providing evidence that latent tensions are present even in the case of structural separation (Pondy, 1967, Westover,

2010) therefore both structural and contextual configurations are needed for managing the tensions of ambidexterity.

### **6.3. Cross case analysis**

This section will focus on the findings emerging from the cross analysis of all four embedded cases that were part of this research. In this cross case analysis each embedded case was a unit for identifying how the demands for innovation and efficiency (stemming from an ambidextrous organizational orientation) were perceived and managed. By focusing on how organizational actors within certain organizational groups perceived and managed tensions stemming from this dual demand, this analysis contributes to the debate of how organizational ambidexterity is achieved in practice; complementing our view of the organizational approach to ambidexterity with more micro- level understandings (Contarello et al, 2012).

The organizational level refers to the firm level approach to the pursuit of ambidexterity as this was communicated managers of the top management team, the corporate strategy and other organizational actors who referred to the firm level approach to pursuing both innovation and efficiency. At the group level of analysis, the focus was based on how different groups within the organization perceived and managed these divergent demands; which tensions emerged at each level and how these were managed.

#### **6.3.1. The pursuit of ambidexterity at the organizational level and the emergence of latent tensions at group level.**

At the organizational level both firms followed a different path to ambidexterity: Telco, followed what is described in the literature as a contextual approach to ambidexterity, by not separating exploration from exploitation units.

The dual demand for innovation and efficiency was not only affecting the Services Business Unit, which was the context of this research, but the entire organization. This dual demand was also evident in the corporate strategy that followed the organization's restructuring and new management team in 2010.

On the other hand, the School followed an approach to ambidexterity that was based more on structural separation between innovation through research excellence (afforded more to the academic department) and efficiency through operational excellence (afforded more to the administrative department). Senior management was responsible for coordinating both explorative and exploitative units, following what is described in the literature as a structural approach to ambidexterity (Tushman and O'Reilly III, 1996, Ambos et al., 2008).

A significant finding emerging from the cross case analysis, is that whereas ambidexterity at the organizational level was described as aiming at balancing both innovation and efficiency, at group level organizational actors did not necessarily aim for a balanced approach to dealing with tensions. Instead findings suggest that at group level organizational actors were actively seeking to *manage* tensions, without necessarily referring to the normative assumption of balance.

The notion of balance has been widely used in the concept of ambidexterity, assuming an equal distribution of exploration and exploitation activities. Shifting from this ideal view of balance, however, findings suggest a dynamic process of *managing* tensions across levels, which did not relate with equally pursuing exploration and exploitation activities but rather referred to managing the tensions stemming from the simultaneous pursuit of both. The notion of balance was used in the context of higher order strategic issues and

longer-term time horizon however it was perceived to be an ideal state that a few organizations could ever achieve. Instead, organizational actors focused more on the difficulty of managing tensions stemming from the pursuit of an ambidextrous organizational orientation.

In essence, the organizational pursuit of both innovation and efficiency at the organizational level, was acting as a trigger for the emergence of a number of latent tensions at the group levels, irrespectively of the approach to ambidexterity that was pursued in each case. Smith and Lewis (2011) refer to this process of latent tensions that become salient through a combination of organizational factors (like organizational change) and actor's paradoxical cognition, in their dynamic equilibrium of organizing. Findings of both case organizations confirm the role of organizational change as a trigger for the emergence of latent tensions. For Telco the organizational change from a high technology, product driven company to a telecommunications service provider and the new demand for everyday innovation for all led to the emergence of tensions of innovation and efficiency in parts of the organization that were not previously dealing with innovation per se. In the case of the School, latent tensions of exploration and exploitation at the academic level emerged from the simultaneous increased expectations for research and teaching excellence and measurable research outcomes. More importantly, however, findings suggest that latent tensions of ambidexterity in both organizations were becoming salient through a process, which is here defined as "*reframing*".

***The process of reframing.*** Cross case analysis of all embedded cases suggests that actors at different organizational groups of both organizations, went through a process of "reframing" in order to cope with the broader tensions of



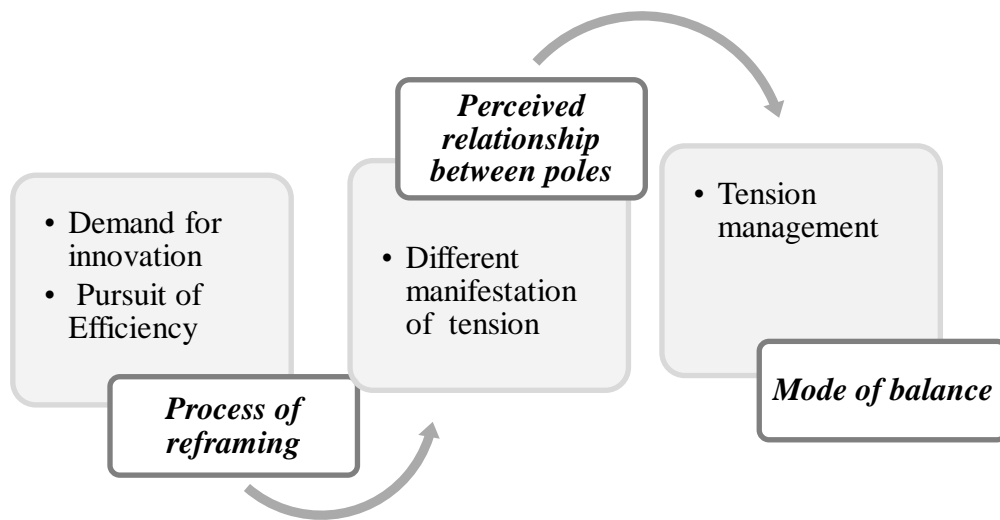
innovation and efficiency that followed an ambidextrous organizational orientation. This process of reframing, which is here defined as “*a coping mechanism of reconceptualization of paradoxical poles*” is characterized by two key elements: a. its context specificity, b. the result of new definitions.

Reframing has been used in the literature on paradox as a synonym for transcendence and synthesis, however there is conceptual difference between the process of managing a tension (reframing) and the result of this tension management (transcendence or synthesis). In this research therefore reframing is used as a concept to describe a process through which actors re-conceptualize the poles of the tension that *precedes* the actual management of the tension. In a similar note Poole and Van de Ven (1989) propose that one form of paradox management (acceptance) can act as a preliminary stage for moving to other forms of paradox management.

More specifically in this cases, following a process of reframing organizational actors were turning an organizational tension (the pursuit for both innovation and efficiency) to a duality that was relevant to their level, and which was subsequently more manageable. This process of reframing was particularly evident in the “innovation” part of the duality which, in contrast to “efficiency”, was regarded a much more complex, poorly defined and elusive concept.

This process of reframing therefore resulted in the different definitions and conceptualizations of innovation (what does innovation mean for me/ my group?) in order to manage the demands of ambidexterity. In this process of reframing, strategic orientation played a key role for setting the context through which new definitions arose. The figure below demonstrates the role of reframing in terms of how tensions were perceived and managed.

**Figure 6.1. The role of reframing in managing ambidexterity tensions at different group levels**



As a result of this process of reframing new conceptual definitions of innovation emerged at each level, based on actor's organizational level and strategic orientation. The role of strategic orientation in how tensions of ambidexterity were perceived was further reinforced at the senior management level of Telco, where different strategic orientations (growing existing business and exploring new opportunities for growth) led to different conceptualizations and modes of balancing within the same organizational level.

The table below summarizes these strategic orientations and the definitions of innovation that emerged in each case, through the process of reframing.

**Table 6.2. Strategic orientations and innovation definitions at different group levels**

<i>Group level</i>				
<b>Case 1.</b>	<b>Case 2a</b>	<b>Case2b</b>	<b>Case 3.</b>	<b>Case 4.</b>
<b>Telco/ operations- middle management</b>	<b>Telco senior management (a)</b>	<b>Telco senior management (b)</b>	<b>The School/ Academics</b>	<b>The School/ Administrators</b>
<i>Strategic Orientation</i>				
Defend existing business	Grow existing business	Explore new opportunities for growth	Explore new knowledge, new opportunities for research, provide with excellent teaching	Ensure operational excellence
<i>Innovation Conceptualization</i>				
Doing things better to exploit existing competencies so as to solidify business with existing customers and in current markets ( <i>Process innovation</i> )	Reconfiguring existing competencies or exploring new competencies so as to expand business with existing customers in current markets ( <i>Business Model innovation, Service Innovation</i> )	Reconfiguring existing competencies or exploring new competencies to gain new customers and penetrate new markets ( <i>Strategic innovation</i> )	Innovation as new, rule breaking, cross disciplinary, highly acclaimed research	Innovation as process improvement to enhance operational excellence (efficiency)

As this process of reframing resulted to different conceptualizations of innovation based on actor's organizational level and strategic intent, latent tensions of ambidexterity emerged, relevant to these new conceptualizations. For example, in the case where innovation was conceptualized as reconfiguring existing competencies or exploring new competencies so as to expand business with existing customers in current markets, actors were faced with tensions of following both a present and a future orientation, managing both proactiveness and reactivity. As a result, based on these group level conceptualizations following the process of reframing, latent tensions of innovation and efficiency emerged at each level. The table below summarizes these latent tensions.

**Table 6.3. Latent tensions of ambidexterity at each group level**

Group level				
<i>Case 1.</i> Telco/ operations- middle managem ent	<i>Case 2a</i> Telco senior management(a)	<i>Case2b</i> Telco senior management (b)	<i>Case 3.</i> The School/ Academics	<i>Case 4.</i> The School/ Administrat ors
Latent Tensions of Ambidexterity				
Innovation vs. efficiency	Present vs. Future orientation  <ul style="list-style-type: none"> <li>• Proactiveness vs. Reactivity</li> <li>• Predictability vs. Uncertainty</li> <li>• Structure vs Freedom</li> </ul>	Traditional vs. New business  <ul style="list-style-type: none"> <li>• New vs. existing competences</li> <li>• Separation vs. integration</li> </ul>	Exploration vs. Exploitation  <ul style="list-style-type: none"> <li>• Tension of Autonomy vs. Control</li> <li>• Tension of Research vs. Teaching</li> </ul>	No perceived tension

### 6.3.2. Managing tensions at different group levels

So far analysis has showed the manifestation of latent tensions of ambidexterity based on the process of reframing at each group level. This section

will now move on to identify the emerging patterns in terms of how these tensions were managed. Overall, the management of the tensions at all group levels showed a mix of integration and separation strategies (either temporal or structural) within each case organization (Andriopoulos and Lewis, 2009).

However, research findings further suggest that the mode of balance that was pursued in each case (integration or separation) was based on whether the poles of the new duality were perceived to be complementary, conflicting or interrelated. In cases where complementarities between the poles of the tension could be sought actors pursued strategies of integration, as the process of continuous improvement in the case of Telco/ operations-middle management and the process of controlled exploration in the case of The School's academic department.

On the other hand, in cases where poles were considered to be conflicting (in terms of resources, time frames or competencies) separation strategies were pursued. Indicative examples of these separation strategies are the cases of senior management tensions at Telco where tensions of ambidexterity were managed either through temporally shifting between periods of innovation and efficiency, or through the use of parallel structures. Similarly, academics were pursuing a differentiating strategy of temporal separation to manage tensions stemming from the competing demands of research and teaching.

Despite the different modes of balancing pursued in each case, two overarching approaches in terms of tensions management emerged:

- a. Transcending / (synthesis)
- b. Relational approach (keeping the paradoxes open, dynamically shifting between poles)

This conceptual distinction between transcendence and relational approach is also related to the difference Clegg et. al. (2002) identify as “holding” versus “solving” a paradoxical tension and what Smith and Lewis (2011) identify as acceptance or resolution paradox strategies.

Transcending/ synthesis has appeared in the paradox literature as a process for managing tensions that seeks resolution through transforming dichotomies into a new perspective or a reformulated whole. Based on the dialectics perspective of thesis, antithesis and synthesis, transcendence is the result of turning dualities in a more workable entity where the original tensions between them no longer exists (Seo et al., 2004). More specifically transcendence as an approach to managing tensions was applied in two cases: case 1 (the operations/ middle management) and case 3 (academics). In the case of operations/ middle management the tension of efficiency and innovation was managed through the synthesis of “operational excellence” which combined both high levels of efficiency and process innovation. For an organizational level that was not accustomed to dealing with tensions, synthesis was a conscious process of resolving the tension, by eliminating any contradictions. In that way the demand for innovation was embedded into everyday work. In the case of the academics “controlled exploration” was a mechanism, which combined both exploration and exploitation, through exploring new knowledge within a specific set of boundaries. This approach to managing tension aims at tension resolution, by reducing conflict, and has also appeared in the literature as “working through paradox” (Lewis, 2000). This approach is not the same as finding the middle way between opposites, but rather creates a new conceptualization that is based on both poles of the tension. This finding also then agrees with Seo et al. (2004) who

argue that learning organizations mainly handle dualities and tensions through transcendence: *“through creating new terms, correcting apparent logical flaws, and building an approach based on synthesis rather than a forced merger”*(p.94).

The other mechanism that emerged from the analysis was that of holding the paradox open, an approach to managing tensions that has appeared in the literature as the “relational approach” (Clegg et al., 2002). Following this approach means that actors are aware of both poles of the tension and dynamically shift between poles either through temporal or spatial separation. This approach to tensions does not aim at eliminating tensions as both poles of the duality are considered equally important. Holding the paradox open by recognizing the potential of both poles was found to emerge at higher organizational levels that were more sensitive towards the inherent tensions of organizing (senior managers, academics). On the other hand one could also argue that the more we move up the hierarchical levels innovation and efficiency become more contradictory, thus separation rather than integration strategies would be more appropriate. This could be explained if we take under consideration what Fehr (2009) refers to as “domain breadth”: “a set of ideas and concepts to which an individual or a group limits its creative efforts” (p.344). The author suggests that as the domain breath increases so does the potential for radical innovation. In that context, given that the domain breadth is increasing the more one moves up the hierarchical levels, the conflicting demands for efficiency are bound to be more pronounced.

The table below summarizes the different approaches to managing tensions within the 3 embedded cases:

**Table 6.4. Tension management at different group levels<sup>29</sup>**

<b>Group level</b>	<b>Case 1</b>	<b>Case 2a</b>	<b>Case2b</b>	<b>Case 3</b>
<b>Group level coping mechanism</b>	Reframing <i>(a context specific coping mechanism for managing tensions through which new definitions arise)</i>			
<b>Tension Management</b>	Transcending (Synthesis)	Relational approach (Keeping the paradoxes open, dynamically shifting between poles)	Relational approach (Keeping the paradoxes open, dynamically shifting between poles)	a. Keeping the paradoxes open, dynamically shifting between poles b. Transcending (Synthesis)
<b>Relationship between poles</b>	Complementary	Conflicting <i>Competing resources, processes and time-frames</i>	Interrelated	Conflicting <i>Competing resources, processes and time-frames</i>
<b>Mode of balancing</b>	Integration <i>Process Innovation embedded into everyday practice</i>	Temporal Separation <i>Shifting between periods focused on efficiency &amp; periods focused on innovation</i>	Structural Separation <i>Parallel structures</i>	Temporal Separation <i>Shifting between competing demands</i>  Controlled exploration <i>Experimentation and exploration within a specific set of boundaries</i>

<sup>29</sup> Case 4 (The School/ Administrative department) is not included in this table, as actors at this level did not express any perceived tension between efficiency and innovation. Whereas innovation in the form of process improvement was pursued this was the result of intrinsic motivation and did not stem from an organizational demand for both innovation and efficiency as in the case of Telco (operations/ middle management). The lack of perceived tensions at this level also follows from the organizational structural approach to ambidexterity.



## **Summary**

The pursuit of organizational ambidexterity is based on managing what have traditionally been perceived as conflicting processes of innovation and efficiency not only at the firm level but also throughout the organization. Indeed an ambidextrous orientation presupposes that actors that were not traditionally associated with divergent or conflicting demands should now deal with this new situation. In order to explore how an ambidextrous orientation is cascaded throughout the organization I chose to study four groups in two organizations in order to see how they perceive and manage tensions.

Cross case analysis leads to a view of ambidexterity that is much more complex and difficult to manage than what is traditionally perceived in the literature as tensions of ambidexterity emerge not only at the organizational but also at group levels. Different modes of balancing those tensions also suggest that different ambidexterity approaches (differentiation and integration) co-exist within single organizational settings. The role of reframing is identified as a key mechanism through which groups perceive and manage tensions stemming from the pursuit of an ambidextrous orientation.

## CHAPTER 7. DISCUSSION AND IMPLICATIONS

Research on organizational ambidexterity aims to address the burgeoning need for organizations to manage what were traditionally considered opposing goals (Porter, 1980) such as innovation and efficiency (Eisenhardt et al., 2010), through a number of different structural or contextual approaches (Gibson and Birkinshaw, 2004, Güttel and Konlechner, 2009, Kauppila, 2010, McCarthy and Gordon, 2011, O'Reilly III and Tushman, 2011, Raisch and Tushman, 2011, Raisch et al., 2009, Tushman and O'Reilly III, 1996). Based on March's seminal article on exploration and exploitation as opposing learning processes (March, 1991), dominant research on ambidexterity so far has adopted a view of exploration and exploitation as inherently contradictory therefore proposing structural or contextual configurations that aim at resolving tensions, predominantly at the organizational or business unit level. These static and single level approaches to ambidexterity, however, fail to encapsulate the underlying mechanisms of how ambidexterity is pursued in practice and through which mechanism and processes tensions are managed (Nosella et al., 2012, Raisch et al., 2009).

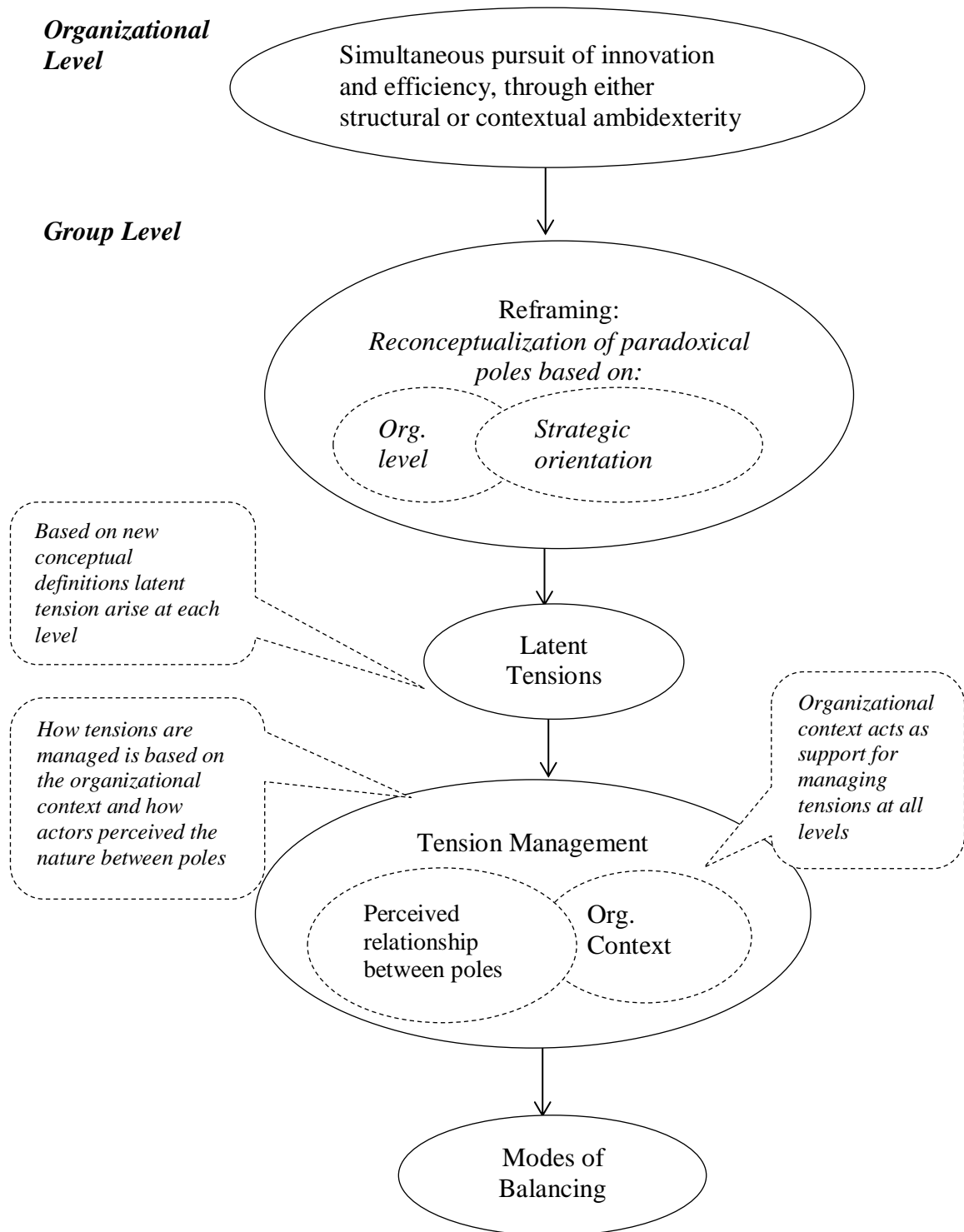
In order to address this gap, this research adopts a holistic approach to the study of ambidexterity where tensions are explored at different organizational levels. Through a longitudinal case study research in two organizations in pursuit of ambidexterity this research brings forward a view of ambidexterity that is complex and dynamic, as it involves the co-existence of different tensions and modes of balancing within different organizational groups. Research findings contribute to the study of ambidexterity at two main levels: tension manifestation (which tension arise at each organizational group) and tension management (the

approach to tension management and the mode of balance pursued in each case) (see figure 7.1.).

Through a more micro- level approach to the research of ambidexterity, this research brings forward the role of organizational actors in the management of tensions since different modes of balancing were pursued according to how individuals perceived tensions (as complementary, conflicting, or interrelated) their organizational level and their strategic orientation. As a result, this research contributes to the theory on ambidexterity by identifying a path dependent process of managing tensions based on how individuals perceive the nature of the tensions. As literature on ambidexterity is shifting towards the importance of agency in the pursuit of ambidexterity (Mom et al., 2009, Nosella et al., 2012, Simsek, 2009) gaining this understanding is a crucial step towards achieving ambidexterity.

This chapter will resume on the research's main findings and implications for both theory and practice. Finally, the research limitations and future opportunities for research are discussed.

**Figure 7.1. Path dependent process of managing tensions**



## **7.1. Organizational ambidexterity, latent tensions and the process of reframing**

Research on ambidexterity to date has well documented the inconsistencies and tensions stemming from multiple, divergent demands (Andriopoulos and Lewis, 2009, Hotho and Champion, 2010, Ingram et al., 2008, Raisch et al., 2009, Schreyögg and Sydow, 2010). Tensions of exploration and exploitation, however, are usually explored at the organizational or business unit level without examining further how different levels of the organization might interpret and balance these tensions (Nosella et al., 2012, Raisch et al., 2009, Simsek, 2009). The role of different organizational levels has been scarcely researched with most empirical papers focusing on one level of analysis: the role of top management as drivers of change (O'Reilly III and Tushman, 2011, Jansen et al., 2008), middle managers (Huy, 2002) or individual employees (Gibson and Birkinshaw, 2004).

Following, however, a single level approach to exploring tensions offers a piecemeal approach to managing tensions at a time when organizations within highly dynamic and volatile competitive environments don't only need to prepare for change, but need to be able to operate *within* change (Chandrasekaran et al., 2012, Westover, 2010). As Andriopoulos and Lewis (2009) and Simsek (2009) argue, a multilevel approach would be vital in reinforcing and sustaining organizational ambidexterity.

Following a more micro-level approach to the study of ambidexterity, this research reveals not only the pervasiveness of tensions across organizational levels but also the different forms of tensions that emerged at each level. Shifting from the view of ambidexterity that assumes a neat separation of tensions and a

responsibility of management at the top management level (Carmeli and Halevi, 2009, Lubatkin et al., 2006, Smith and Tushman, 2005, Tushman et al., 2011, Tushman and O'Reilly III, 1996), this research suggests that tensions stemming from the pursuit of ambidexterity emerge irrespectively of hierarchy or domain and cannot be neatly separated.

In the case of Telco, findings suggest that tensions of innovation and efficiency are spread throughout the organization and cannot be isolated only in one part of the organization. Senior management for example is faced with the strategic tensions of innovation and efficiency while lower organizational levels have to deal with the operational tensions of these two demands. This finding then agrees with (Bledow et al., 2009) who argue that whereas tensions stemming from the pursuit of radical innovation are expected to be more pronounced within organizations, incremental innovation also poses some challenges in the established organizational logic since it entails some degree of newness. The pervasive nature of tensions across the organization is also evident in the case of the School where although the approach to ambidexterity is that of structural separation (Tushman and O'Reilly III, 1996), latent tensions of innovation and efficiency are also present within the supposedly "monodextrous" units as in the case of academics tensions of exploration and exploitation where highly pronounced.

Farjoun (2010) also argues against the separation of challenges the neat separation of duality tensions of stability and change, arguing that: *"Individuals engaged in routine tasks exercise some degree of experimentation, and those engaged in creative tasks use routines to some degree. Similarly, innovative units include considerable structure and controls, and units concerned with reliability*

*embrace some variation and redundancy” (p.218). In a similar note Rosing et al. (2011) also highlight the presence of exploration within exploitation and vice versa: “we assume that even teams that specialize in exploration (e.g., research teams) need to exploit to some extent as they would not be able to produce any tangible results without exploitation. On the other hand, teams that specialize in exploitation also need to engage in some exploration, for example, when problems arise or errors occur that need to be solved” (p.966).*

Tensions of ambidexterity, however, were not only cascaded throughout the organizations, but in addition different manifestations of the tensions emerged based on groups’ strategic orientation and organizational level. In the case of Telco, at the operational/ middle management level, organizational actors faced tensions stemming from the need to both innovate and be operationally excellent, whereas in the senior management level tensions related to having both a present and a future orientation and managing both existing and new competencies. At the case of the School tensions of ambidexterity were related to the simultaneous pursuit of knowledge exploration and exploitation and were manifested as tensions of autonomy and control and teaching vs. research.

Latent tensions of organizing have been identified in the paradox literature however there are scarce empirical evidence on how these tensions are perceived and managed in practice. Findings from this research, however, suggest that latent tensions of efficiency and innovation at different group levels emerged through a **process of reframing**: a coping mechanism for managing tensions which enabled organizational groups to purposefully conceptualize innovation in a way that was relevant to their level and strategic orientation. A similar process of reframing was also described in the case of Toyota, through the conceptualization of the

production's system goal as "reducing waste", a more overarching and encompassing goal that included both increased efficiencies and elimination of defects (Adler et al., 2009). Whereas in the case of Toyota this process of reframing was taking place at the corporate level, findings from this research suggest reframing to be a group level process.

As a result, in the case of Telco for example, innovation-as an inherent aspect of ambidexterity- was interpreted as process innovation in pursuit of higher efficiency at the middle management and operations levels. At the senior management level on the other hand, innovation was related to business model, service, or strategic innovation. These conceptualizations were related to three main strategic orientations within the organization. Firstly, defending existing business (at the operations/middle management level); secondly, growing existing business; and thirdly, exploring new opportunities for growth (at the senior management level). Whereas literature on ambidexterity and paradox has underlined the need for a paradoxical cognition that enables actors to deal with conflicting pressures (Smith and Tushman, 2005; Smith and Lewis, 2011), findings suggest a pragmatic approach to how tensions were perceived based on actors' strategic orientation and their location in the organization.

The role of strategic orientation is also explored by (Auh and Menguc, 2005) who focused on the distinction between defenders and prospectors and the impact of pursuing exploration or exploitation strategies on research performance; according to their findings exploration was more positively related to firm performance for prospectors than exploitation and vice versa in the case of defenders. However this research takes this argument further by proposing that different strategic orientations (similar to Auh's and Menguc's defenders and



prospectors) can co-exist within a single organization leading subsequently to different manifestations of the exploration-exploitation tension.

This multiplicity of tensions across levels reveals a complex picture of co-existing ambidexterity tensions within a single organizational context, challenging traditional views on ambidexterity that focus on a single level analysis of manifestations of tensions (Raisch et al., 2009). Taking under consideration the co-existence of multiple ambidexterity tensions at different levels, also challenges the uniform approaches of managing tensions through structural or contextual configurations. In essence, the pursuit of ambidexterity is here presented as being consisted of different types of latent tensions emerging within different organizational groups. In a similar note, Andriopoulos and Lewis (2009) have referred to the nested tensions of innovation (strategic intent, customer orientation, personal drivers). Whereas the authors present nested tensions in a form of interconnection (forming a sort of spiral loop which they name as virtuous cycle of ambidexterity) this type of interconnection between tensions was not found in the present research. Instead, latent tensions at each level did not seem to be related with latent tensions of another group. Furthermore, tensions were managed within the level they emerged, thus contradicting assumptions in the literature that tensions of ambidexterity are solved as one moves further up the hierarchical levels (Raisch and Birkinshaw, 2008). In that context the pursuit of ambidexterity that emerged was that of tensions within discrete subsystems, stemming from the relationship between subsystems and the overall system (Smith and Lewis, 2011).

*Tensions of ambidexterity: complementary or contradictory?* The different manifestations of ambidexterity tensions at different group levels were further associated with a different view on the interrelationship between the two

ambidexterity poles of innovation and efficiency (as complementary, conflicting, or interrelated) challenging the traditional views that consider tensions as either inherently contradictory or independent.

The issue of the relationship between exploration and exploitation remains a key issue in the study of ambidexterity; whether exploration or exploitation are considered two ends of the same continuum and in that sense inherently contradictory, or as theoretically independent constructs which are not necessarily conflicting (Gupta et al, 2006; Lubatkin et al. 2006). A key source of conceptual ambiguity at this level is considered to be the loose interpretation of these constructs in ambidexterity studies. Indeed the substantial differences in the interpretation of exploration and exploitation have led to ambiguous results (Ying et al., 2008).

Whereas research on ambidexterity so far has typically identified the relationship between exploration and exploitation as contradictory, findings suggest that how organizational actors perceive this duality can take various forms, within different organizational levels. By focusing on organizational actor's perceptions of the tension this research argues that how ambidexterity is achieved is not based on individual's inherent capabilities of wearing two hats as suggested by the proponents of contextual ambidexterity (Gibson and Birkinshaw, 2004) but by individuals' perceptions of the tension based on where they are located in the organization and the type of innovation that is relevant at each level.

All of the above bring the forefront the complex relationship between exploration and exploitation and the various meanings that can have according to context and definitions. Indeed, whereas various streams of literature have all contributed to the research of exploration and exploitation, the inconsistent

interpretation of these terms makes it difficult in terms of comparing findings and challenging for future research (Ying et al., 2008). As a result, ambidexterity has been defined in terms of a structural configuration, a set of organizational processes and capabilities and a set of exploratory and exploitative outcomes (Berghman, 2012, Birkinshaw and Gibson, 2004, Cantarello et al., 2012, Carmeli and Halevi, 2009, Filippini et al., 2012, Geerts et al., 2010, Güttel and Konlechner, 2009, He and Wong, 2004, Judge and Blocker, 2008). Similarly, in the context of innovation literature, the lack of clear definitions was reflected in a recent literature review by published in the Journal of Management studies, where 44% of the reviewed articles relating to innovation referred to “general” unidentified type of innovation (Crossan and Apaydin, 2010).

In that context, a more detailed, focused and microscopic analysis of exploration and exploitation tensions contributes towards a richer conceptualization of ambidexterity. The importance of closer and more microscopic definitions in research of exploration and exploitation is also highlighted by Lavie et al. (2010) who underline the risk of mixing completely distinct phenomena under the unifying umbrella of exploration and exploitation.

The focus on practices and actors’ first order interpretations that was followed in this research has been argued to play a key role in identifying how organizational ambidexterity capability is developed (Cantarello et al., 2012). Findings suggest that instead of treating the key terms of ambidexterity as though they have one and clear meaning key terms have a variety of meanings according to context (Paroutis and Heracleous, 2013). Different conceptualizations of the innovation/ efficiency tension appear both across and within organizations, with important implications both in terms of how ambidexterity is conceptualized and

researched and how it is achieved in practice. In that context this research extends current ambidexterity foundations that were traditionally focused on issues of organizational design and leadership without taking under consideration broader strategic elements (Raisch and Birkinshaw, 2008).

## **7.2. Managing tensions of ambidexterity at different levels of analysis**

*“The framing of paradox determines the response to paradox”*

(Ford and Ford, 1994)

Following the dominant single level approaches to the study of ambidexterity, literature so far can be categorized based on whether ambidexterity is achieved through separation at the organizational level (structural approach) or integration at the business unit level (contextual approach). More specifically, the structural approach to ambidexterity is based on separation of exploration and exploitation units, and integration at the TMT. On the other hand, the contextual approach to ambidexterity, proposes within unit integration of exploration and exploitation, however, there is lack of empirical evidence on how individuals manage these demands. Whereas recent literature on ambidexterity has explored the need for integration mechanisms in cases of structural separation (Jansen et al. 2009), suggesting that separation might be a necessary yet insufficient approach to ambidexterity (Kauppila, 2010) integration and separation strategies are traditionally treated in the literature as alternative rather than complementary processes (Raisch and Birkinshaw, 2008).

However this research suggests that how tensions were managed relates to how tensions were perceived at each organizational group. In that context, whether tensions were perceived as complementary, contradictory or interrelated, appeared to have direct implications to the modes of balancing that were pursued

in each case. The most common approaches for managing tensions have been proposed by Poole and van de Ven (1989) as a way that organizational theorists can study the organizational inherent paradoxes of organizing. Empirical findings from this study suggest that although analytically distinct, those different methods can be combined in practice (Chae and Bloodgood, 2006). In that context the paradox management theory served as an analytical tool in order for me to identify the different modes of tension management that were pursued in each group.

More specifically, findings from both cases suggest that organizational actors followed two distinct approaches to managing tensions (transcendence/synthesis and the relational approach) each associated with a different mode of balancing (integration, temporal or spatial separation). In the cases where complementarities between the poles were identified, actors pursued integration strategies, whereas in the cases where tensions were perceived as contradictory or interrelated, separation was the mode of preference. These findings then contribute to the study of ambidexterity through identifying the micro mechanisms of managing tensions (Turner and Lee-Kelley, 2012).

In the case of Telco, findings show that at the operational and middle management levels, actors pursue integration as a mode of balancing. The goal of operational excellence as a process that combines both high levels of efficiency and embedded change, emerged as the result of transcendence, where tensions from the simultaneous pursuit of innovation and efficiency were transformed into a more workable entity (transcendence). As a result, within their everyday practice, employees at this level were pursuing ideas that would lead to operational efficiency through minimizing cost or enhancing efficiencies. This

resulted to a continuous adaptability of processes that could respond to change and the demands from customers, a process that has been referred to as dynamic efficiency (Adler et al., 2009). Academics in the case of the School also demonstrated a similar approach of transcendence in their pursuit of controlled exploration as a way to manage tensions of autonomy and control.

On the other hand separation strategies were also evident in both organizations. At the senior management levels of Telco, where the current organizational scope and resource commitments are seen as boundaries and constraints to business model, service or strategic innovation, the balancing mode becomes separation; either temporally or in terms of setting up parallel but interrelated structures to pursue new avenues for growth. In the case of managing conflicting demands of research and teaching, academics also pursued a strategy of temporal separation, through allocating different time in each activity. Whereas separation strategies for managing tensions are usually conceptualized in the literature as strategies for eliminating tensions by focusing on only one aspect of the duality, findings instead suggested a relational approach to tensions; which allowed actors to shift between poles based on the availability of resources and situation at hand. Actors at this level thus acknowledged the role of each pole of the tension separately.

Research findings thus support that the pursuit of ambidexterity is based on both dialectic and dichotomous approaches to managing tensions (Bledow et al., 2009) at different levels of the organization building on both integration and separation strategies (Chandrasekaran et al., 2012, Andriopoulos and Lewis, 2009, Mahmoud-Jouini et al., Smith, 2009). Cantarello et al. (2012) also recognize the existence of both integration and separation strategies in the pursuit of

ambidexterity, however, they follow a sequential model of integration and separation throughout the organization, similar to Smith and Tushman's (2005) mix of integration and separation as sequential cognitive activities of the senior management team. This research instead presents a simultaneous existence of integration and separation strategies within organizational settings.

Moreover, whereas research on ambidexterity tensions so far at the individual level has assumed that managing tensions is depended upon a paradoxical cognition (Smith and Tushman, 2005, Smith and Lewis, 2011), these findings present a more pragmatic approach of dealing with tensions that is based on how tensions are perceived at each level, the innovation conceptualization and the strategic orientation of the actors.

The contribution of these findings is twofold: firstly on identifying a path dependent process of how tensions of ambidexterity are manifested and managed in different organizational groups, this research contributes to the debate of how organizations build an ambidextrous capability and how ambidexterity is pursued in practice (Bledow et al., 2009, Cantarello et al., 2012). Secondly, by focusing on how actors perceive and manage tensions stemming from an ambidextrous orientation this study contributes to the literature on paradox where there is limited evidence of how paradoxes can be dealt in managerial practice (Cantarello et al., 2012).

### **7.3. Structural and contextual approaches to ambidexterity**

Organizational ambidexterity deals with the management of tensions created by the opposing processes, cultures and structures of exploitation and exploration and in this context studies have focused on organizational structure and context as means of balancing these tensions. Whereas both structural and

contextual approaches have argued to lead to organizational ambidexterity, connections or linkages between the two are yet to be provided by scholars (Cantarello et. al. 2012; Simsek, 2009). Detailed findings on both organizations however, lead towards an approach to ambidexterity that defies the traditional limits between structural and contextual approach, as these are described by the literature.

Findings from the School case bring to the forefront an approach to managing ambidexterity demands based on structural separation. However, whereas literature on structural ambidexterity considers organizational separation an adequate means to isolate tensions in order to manage monodextrous units (Tushman and O'Reilly III, 1996), findings suggest a more complex organizational reality of latent tensions within innovation-oriented and efficiency-oriented organizational units. This case presents evidence that following a structural approach to managing tensions also demands balancing latent tensions within each level. At both levels (academic faculty, administration) the role of a supportive organizational context was highlighted as an enabler for individuals to deal with increasing demands. Organizational context is defined by (Gibson and Birkinshaw, 2004) as “the systems, processes, and beliefs that shape individual-level behavior in an organization” (p.212). Such a supportive organizational context would not only articulate expectations but that would also create the conditions within which these expectations could be met. In a similar note Jenkins (2004) argued that the relationships between research, teaching, broader work expectations and rewards need to be defined and managed at the institutional, departmental, and individual levels to avoid potentially undesirable effects and counterproductive behaviors (Houston et al., 2006).



In the case of Telco, we see that the contextual approach to ambidexterity followed at the organizational level was also followed with structural approaches to managing tensions of innovation and efficiency at the senior management level. More specifically, whereas demands for innovation and efficiency were cascaded throughout the organization, following the basic premises of contextual ambidexterity, findings from different levels of the organization seem to suggest that both structural and contextual approaches to ambidexterity were present. The role of the organizational context in facilitating the demand for both innovation and efficiency was highlighted at the operations and middle management level as well as for those senior managers afforded with the responsibility of growing existing business. The literature on contextual ambidexterity (Birkinshaw and Gibson, 2004) also underlines the role of a supportive organizational context for individuals that would allow them to deal with conflicting activities. The resulting type of this contextual approach to ambidexterity is individuals' behavioral capacity to wear two hats, and make their own judgment on how to divide their time between different activities (Ambos et al., 2008). However, at the senior level where managers were pursuing new opportunities for growth outside the current scope of business in Telco, structural separation was chosen in the form of parallel structures.

Shifting away from the view of structural and contextual approaches to ambidexterity, findings suggest that neither approach was in itself adequate for the management of ambidexterity tensions. Instead, the need for a supportive organizational context emerged as key in the case of the School's structural approach, and both structural and contextual approaches were pursued in the case of Telco (innovation and efficiency within the same unit/ innovation and

efficiency through parallel structures). In all cases however, the role of a supportive organizational context based on a supportive leadership, clear targets/vision, organizational structures and processes that can facilitate all stages of the innovation (from inception to dissemination and implementation) was underlined. The role of incentives was also highlighted as lack of incentives acted against the pursuit of new ideas and experimentation. In other words, a supportive organizational context emerged as playing a key role in managing conflicting demands as lack of necessary resources, leadership support and flexible processes acted as barriers to innovation, irrespectively of hierarchy or domain. In that context, the pursuit of ambidexterity is depended upon the alignment of an ambidextrous orientation with an organization's internal structures and processes (Smith and Tushman, 2005, Markides and Oyon, 2010).

#### **7.4. A dynamic view of ambidexterity**

The above discussion of key research findings brings forward an approach to ambidexterity that shifts from the traditional static approach of managing tensions at the organizational level (Raisch and Birkinshaw, 2008). Instead, the different levels of analysis, the different manifestations of the innovation/efficiency tensions and the multiple modes of balancing that were identified in each case organization, paint a more dynamic and complex approach to ambidexterity. Such a dynamic perspective is based on a more micro-level approach to ambidexterity which focuses on the specific contexts where tensions arise and the underlying mechanisms that influence tension management (Nosella et al., 2012).

This approach to ambidexterity is closely related to Simsek's definition of ambidexterity as a "*dynamic balance that stems from purposefully steering and*

*prioritizing each dimension to its inherent optimum as conditions demand*” (2009:618). Influenced by the literature on dynamic capabilities, dynamic ambidexterity argues that organizations are prone to change their ambidextrous configuration according to opportunities and threats that arise from their internal and external environment without achieving a lasting balance between exploration and exploitation (Simsek, 2009). Similarly, literature on dynamic capabilities argues for the ability of organizations to create and recombine their resources in novel ways in order to manage tensions between efficiency and flexibility, stability and change (Eisenhardt et al., 2010, Teece et al., 1997, Martin, 2011, Schreyögg and Kliesch-Eberl, 2007).

Within that context how do organizations build such an ambidextrous capability? This research suggests that the pursuit of ambidexterity is a complex and multi-level endeavor, related with multiple tensions and modes of balancing not only overtime but also simultaneously. Overall this pursuit of ambidexterity would look like a synthesis of interlocking tensions, in constant movement, the combination of which moves the organization forward, a dynamic alignment of tensions appearing in different organizational levels (Smith and Lewis, 2011).

This multiplicity of tensions and modes of balancing implies that the pursuit of organizational ambidexterity does not involve a single type of tension (innovation vs. efficiency, or exploration vs. exploitation) as the simultaneous pursuit of these demands leads to the manifestation of a number of sub-tensions at different group levels. The identification of these different levels of tensions and modes of balance in this research provides with empirical evidence on how different organizational paradoxes co-exist within single organizational settings in

the pursuit of ambidexterity (Andriopoulos and Lewis, 2009, Smith and Lewis, 2011).

At the same time, a single approach to ambidexterity (structural or contextual) does not ensure either that tensions are adequately managed. As a result, the demand for ambidexterity cannot be treated monologically, as if it only has one meaning, or one way of managing tensions. Instead, this research supports scholars who argue for a multi-domain analysis of ambidexterity in order to gain a clearer picture of how ambidexterity is achieved and sustained (Turner and Lee-Kelley, 2012, Gupta et al., 2006, Raisch and Birkinshaw, 2008).

In light of the above the pursuit of ambidexterity becomes a more complex issue that demands managing of tensions not only at the top management level but also throughout the organization, even in the cases of structural separation. Exploring how tensions of innovation and efficiency were manifested at different organizational levels contributes, therefore, to the discussion of digging deeper into the nature of ambidexterity tensions and into the different coping mechanisms that are pursued in each case. Bringing forward the interpretations of organizational actors, this research shifts the focus of ambidexterity from an organizational structure to something people do as they are confronted with conflicting pressures. The identified process of reframing brings forward the role of organizational actors in managing tensions of ambidexterity, based on their organizational level and strategic orientation. Whereas this process of reframing is used as a coping mechanism for re-conceptualizing tensions, it does not assume that tensions are resolved; instead latent tensions of innovation and efficiency emerge, confirming the perpetual nature of organizational contradictions (Luscher et al., 2006).

Following a more overarching view of organizational ambidexterity as a firm's ability to be equally dexterous in different and often conflicting areas, the literature on paradox management offers a valuable lens. Viewing exploration and exploitation activities not as mutually exclusive but as interwoven polarities shifts management thinking from an either/or to a both/and thinking. Although paradox theory is conceptually related to the notion of organizational ambidexterity paradox has been used more as a label than a lens for exploring the fine nuances of tensions in the ambidexterity literature, with only a few exceptions (Andriopoulos and Lewis, 2009, Smith and Tushman, 2005, Smith et al., 2010). Whereas paradox theory and ambidexterity are conceptually related, and often paradox is used to describe the simultaneous presence of seemingly contradictory forces within an ambidextrous environment, paradox management (the different approaches to dealing with paradoxical tensions) is not explicitly explored in terms of organizational ambidexterity. Based on a view of paradox as a lens rather than a label (Lewis, 2000) this research explored how the different approaches to paradox management offered by the literature, could inform our understanding of how ambidexterity tensions are managed, thus contributing to the theory of ambidexterity from a more micro-level and processual view that aims to untangle *how* ambidexterity is achieved.

Taking one step back, exploring the root causes of paradox by untangling the complex relationship between exploration and exploitation has offered a richer conceptualization of ambidexterity and the tensions involved. In that sense the paradox literature provides a useful framework not only on how to treat paradoxes but also on how to think of them as “one of the most common routes to paradox is through the mistakenly uniform use of a term or concept that actually has a

plurality of senses and applications” (Rescher, 2001: 91). This research then follows a stream of research that places contradictions and paradoxes in the center of organizational science, based on the continuous and simultaneous pursuit of multiple, divergent demands (Andriopoulos & Lewis, 2009; Lewis, 2000; Poole & Van den Ven, 1989; Smith and Tushman, 2005). In that context findings contribute to the debate of how organizations embrace paradoxical tensions simultaneously, providing alternative ways of balancing tensions across organizational levels contributing to both theory and practice.

### **7.5. Practical implications**

Within an increasingly complex and dynamically shifting competitive environment, organizations need to not only respond to the demands of today but of those of tomorrow, managing what traditionally have been conceptualized as conflicting activities and structures. In order to respond to these increasing demands, the literature on organizational ambidexterity has argued that such a balance is both possible and beneficial for organizational performance. Whereas the literature has provided with evidence on how successful ambidextrous organizations have dealt with competing demands (Tushman and O'Reilly III, 1996, Heracleous, 2013, Heracleous and Wirtz, 2010), less is known about the challenges that organizations face *in the pursuit* of ambidexterity. The challenges stemming from managing divergent demands become even more pronounced at a time when managing innovation and change is considered a key strategic priority for organizations in increasing number of industries (Gary, 2003, Damanpour and Aravind, 2012, Corso and Pellegrini, 2007, Tonnessen, 2005).

Tensions of efficiency and innovation examined at two different organizational levels suggest that the pursuit of organizational ambidexterity is a

challenge not only for the senior levels of the organizations but for the entire organization since tensions of ambidexterity are manifested and managed within different organizational groups. Similarly to Rosing et al. (2011) who argue that a single leadership behavior cannot promote innovation successfully but rather leaders should flexibly switch between complementary leadership behaviors in order to promote innovation, we argue that ambidexterity is the ability of the organization to switch between and manage different tensions arising at different organizational levels.

Rather than a unitary ideal of balance, findings also indicate a path-dependent set of interpretations and actions with respect to the pursuit of ambidexterity: a specific strategic intent is associated with a specific view of the dimensions of ambidexterity (nature of innovation and its interrelationship with efficiency), which in turn entail different modes of balancing (see Figure 7.1.). These findings help to inform current understandings of ambidexterity by offering a pluralist, grounded and pragmatic way to understand how actors at different levels interpret and deal with tensions of ambidexterity. In that context, apart from deciding the strategy for balancing tensions at the firm level, top management team needs to provide with the context for helping lower levels deal with the tensions that arise at each level.

Shifting from using paradox or tensions as a label for identifying contradictory demands, this research places the role of actors in the forefront for understanding how an ambidextrous strategy can be achieved and sustained thus providing managers with key insights on how to deal with divergent demands (Smith and Tushman, 2005).

Following a longitudinal empirical research in two organizations in pursuit of an ambidexterity, this research presents a dynamic view of ambidexterity. In that context findings suggest that: a) the pursuit of ambidexterity is a task of dynamic rather than static alignment b) different solutions, including structural and contextual ones, may be required over time to sustain ambidexterity and c) ambidexterity may arise from both simultaneous and sequential attention to exploitation and exploration.

Managing such an environment demands complex senior team capabilities (Smith and Tushman, 2005). However, findings provide with empirical evidence on how these challenges can be met, helping senior managers to be more proactive and anticipatory in their thinking about pursuing organizational ambidexterity. Questions like: “how will an ambidextrous orientation be perceived given a specific strategic orientation or “what modes of balancing would be more appropriate given a specific context” could provide with new insights on how ambidexterity can be pursued and sustained over time. In a time characterized by continuous and disruptive change managers need not only to be familiarized with the existence of multiple tensions of organizing but with ways to manage them before making strategic or operational decisions (Bloodgood and Bongsug, 2010).

The table below summarizes the key research findings, the implications for theory and the contribution of this research in the study of organizational ambidexterity.



**Table 7.1. Research findings & implications**

Findings	Implications for theory	Dominant understanding	Research Contribution
<p><b>Research Question 1</b>  <i>How do different organizational groups/ levels perceive and manage tensions stemming from the pursuit of ambidexterity?</i></p>			
<p><b>Tension manifestation</b></p> <ul style="list-style-type: none"> <li>• Different conceptualizations of the tensions at different levels (process of reframing)               <ul style="list-style-type: none"> <li>a. Based on org. level and strategic orientation</li> </ul> </li> <li>• Emergence of latent tensions in different groups</li> </ul>	<ul style="list-style-type: none"> <li>• Tensions of ambidexterity can take various forms within an organization</li> <li>• Organizational ambidexterity entails the simultaneous presence of multiple tensions across levels</li> <li>• Persistence of tensions even within structural separation</li> </ul>	<ul style="list-style-type: none"> <li>• Tensions usually explored at firm level <i>or</i> business unit level</li> <li>• Uniform understanding of tensions</li> </ul>	<p><i>Multi-level and dynamic conceptualization of ambidexterity (Dynamic approach to ambidexterity)</i></p> <p><b>No single tension</b>            Conceptualizations of exploration and exploitation as inherently contradictory or independent constructs depends on the manifestation of the tensions that arise at each level</p>
<p><b>Tension management</b></p> <ul style="list-style-type: none"> <li>• Mix of integration/ separation strategies within organizations in order to manage tensions / different modes of balance therefore co-exist within a single organization</li> <li>• The management of the tensions is based on the perceived nature of the relationship between poles of the tension               <ul style="list-style-type: none"> <li>a. Contradictory-separation</li> <li>b. Complementary-integration</li> <li>c. Interrelated- separation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• No single mode of balancing is adequate for the entire organization; one universal mode of balancing cannot be applied</li> <li>• Path dependent process of managing tensions</li> <li>• Implications for Practice:                Why are certain modes of balance pursued over others? Under which conditions should certain modes of balance be pursued over others?</li> </ul>	<ul style="list-style-type: none"> <li>• Integration <i>or</i> separation strategies are mainly proposed</li> <li>• Paradoxical cognition is mainly attributed to the management of the tensions</li> </ul>	<p><b>No single mode of balancing</b>            Appropriate tactics to resolve tensions have to take account of how actors view these tensions, since the mode of balancing they pursue depends on their interpretations of tensions</p>
<p><b>Research Question 2</b>  <i>What is the role of the organizational context in the management of these tensions?</i></p>			
<p><b>Organizational factors supporting tension management</b></p> <ul style="list-style-type: none"> <li>• A supportive organizational context is important in both types of ambidexterity and across levels</li> </ul>	Combination of structural and contextual factors in the pursuit of ambidexterity	Structural <i>or</i> contextual approaches to ambidexterity	Actors' pragmatic approach within a supportive organizational context

## **7.6. Limitations and opportunities for further research**

The findings of this research contribute to a growing stream of literature on ambidexterity which argues for a more holistic and fine grained approach to the study of ambidexterity (Geerts et al., 2010, Birkinshaw and Gibson, 2004, Güttel and Konlechner, 2009, Bledow et al., 2009, Nosella et al., 2012, Cantarello et al., 2012, Simsek, 2009). However, further empirical evidence is needed to support the arguments raised from this research. Further longitudinal studies could explore whether these tension manifestations are subject to change over time and under which circumstances. Would a change of strategic orientation within the same organizational level, for example, signify a different manifestation of tensions? Further research could also explore whether other contextual factors influence the perception and management of ambidexterity tensions, such as organizational size or industry speed.

Furthermore, the context of organizational change through which both cases were explored offered a useful opportunity to explore the challenges and tensions that arise from organizations in pursuit of ambidexterity, rather than following an a posteriori examination of successful ambidexterity practices. Within this context of change, difficulties and challenges were highlighted such as the role of culture and deeply embedded values that influence how tensions are perceived and managed. However, exploring organizations that had recently undergone transformational change might also be considered a limitation, since at this point we can only assume the level of influence the organizational change had on the perceptions of individuals and in the management of the tension. In that context, a fruitful ground for research

would be exploring possible changes in the manifestations and the management of the tensions within a longer time frame, so as to compare and contrast the approaches during the organizational change and after the change had settled. In the case of this research whereas longitudinal data were collected (during and after the change process), no differences were identified. However, within a longer time frame (of 5 years for example), perhaps these changes might be more evident.

In terms of the focus of this research, this has been more on how individuals within specific organizational groups perceived and managed tensions, rather than on the formal organizational processes that were put in place in pursuit of ambidexterity. Such broader organizational themes (structure, processes, culture and incentives) were examined only in relation to how tensions were perceived and managed. Shifting this view, further research on the role of specific organizational processes in the pursuit of ambidexterity could complement current understandings and provide with further evidence on how ambidexterity is built within organizations as a capability. The example of Toyota for example is relevant in this area of interest since the company has managed to maintain a certain level of continuous learning, through a specific set of processes which stimulated both innovation and efficiency (Adler et al., 1999). Similarly, Apple Inc. has managed to incorporate two distinct strategic orientations through a number of processes that ensure high levels of efficiency and innovation simultaneously (Heracleous, 2013, Heracleous and Papachroni, 2009).

On a theoretical level, research on ambidexterity is yet to provide with a robust and solid definition of the concept. Further research should focus on setting the conceptual barriers of ambidexterity since key issues remain under conceptualized or

poorly understood. The relationship between exploration and exploitation tensions has been one such issue with most research adopting a view of inherent contradiction, resulting to separation propositions of managing tensions. Findings from this research, however, suggested that tensions are not necessarily contradictory or independent but the nature of the relationship can take various forms according to context (Paroutis and Heracleous, 2013).

The issue of simultaneity is another complex and blurred topic in the research of ambidexterity with some scholars adopting the view that ambidexterity presupposes simultaneous pursuit of exploration and exploitation and others who argue that organizations would benefit more from a shift between ambidexterity poles overtime (Simsek, 2009, Laplume and Dass, 2009). Following this line of argument further research could also shed some light on the circumstances under which a simultaneous or sequential approach to organizational ambidexterity is preferred, or whether some organizational levels can indeed follow a simultaneous and other a sequential approach. In all cases however, both the notion of time and level of analysis are expected to play a significant role.

## **7.7. Conclusion**

Organizational ambidexterity is gaining ground as a solution towards the increasing complexity of organizational life. In an effort to answer the challenges of simultaneously addressing divergent demands, the metaphor of ambidexterity has served as an illustrative and comprehensive model of competency in distinct and often conflicting areas. However, whereas the concept of ambidexterity aims at untangling the complex reality of organizational life, theories on how this challenge

can be met follow rather static and dichotomous approaches (Raisch et al., 2009). In other words, what current theory on ambidexterity is yet failing to encapsulate is precisely the exact complexity it is trying to convey. Following traditional approaches of keeping dualities apart, studies on ambidexterity have treated the inherent contradictions of organizational life as distinct processes that can be accommodated given the right structure and context.

At the moment, research on ambidexterity is at a cross roads: on the one hand interest in the subject is increasing steadily, with various streams of research adopting an “ambidextrous” terminology (Raisch et al., 2009). One of the main reasons of this wide acceptance is that the concept reflects one the main challenges organizations are faced with today: the need to do more and often conflicting things simultaneously. This fact does not only bring forward the opportunity to challenge traditionally held organizational and strategic theories but also demonstrates a high practical relevance as practitioners are in one way or the other increasingly faced with the challenge of meeting two (or more) demands at the same time.

On the other hand this broad interest on the concept of ambidexterity could be proven to be a double edge sword as so far no clear definition of the concept is provided by the literature. This abundance of definitions, approaches and fragmented empirical evidence draw a picture of interesting theoretical insights that are hard to compare and contrast. As a result, the dynamic and complex reality of organizational life is yet to be fully encapsulated in holistic and multi-level theories of ambidexterity.

More specifically, research on ambidexterity to date has been involved with ambidexterity at the firm level, the different approaches to ambidexterity (structural or contextual), the identification of performance implications or the various antecedents that can lead to ambidexterity. Research has been informed by various streams of literature, each identifying a different set of tensions, according to the theoretical starting point. However, what is common in all those different views on ambidexterity is the identification of some pair of tensions (exploration/ exploitation, incremental/ radical innovation, alignment/ adaptability) and the acceptance that both poles of the tension should be pursued. And whereas much effort and input has been given to the identification of tensions, much less is done so in terms on how these are managed by individuals or organizational groups.

Theory on contextual ambidexterity underlines the role of a supportive organizational context that helps individuals decide on how to best allocate their time between contrasting activities, balancing adaptability and alignment, however the underlying process of these behaviors is not explored further. Further research based on the literature on paradox and contradictions has argued for a paradoxical cognition of the TMT without however providing empirical evidence to support these arguments. More specifically, whereas the literature on ambidexterity has often referred to contextual antecedents (leadership characteristics, power of a unifying vision, need for a supportive organizational context) the impact of these contextual factors on the management of ambidexterity tensions received limited attention (Brion et al., 2010, Birkinshaw and Gibson, 2004, Güttel and Konlechner, 2009).

This research aims to address this gap, by exploring how ambidexterity is pursued in practice, how different organizational groups perceive and manage tensions and which are the underlying factors that influence this behavior. Moving one step further from identifying tensions and modes of balancing, this research aims to untangle the underlying mechanisms that appear to be influencing this tension management, adding a piece in the puzzle of the various mechanisms that are related to the pursuit of an ambidextrous orientation.

Following a longitudinal case study research in two organizations in pursuit of ambidexterity, this research presents a path-dependent set of interpretations and actions with respect to the pursuit of ambidexterity, which contributes to the literature on ambidexterity by offering empirical evidence that address the burgeoning issue of *how* ambidexterity is achieved in practice. Taking a group level perspective in analyzing tensions and their management assumes a tight connection between the pursuit of ambidexterity and the specific context at which tensions arise (Nosella et al. 2012). These findings then contribute to a more fine grained and multilayered approach to ambidexterity, based on how organizational actors perceive and manage these tensions. This approach shifts the level of focus from the organizational level and the different structural or contextual approaches to managing tensions and introduces the role of organizational actors' perceptions and modes of balancing in managing divergent demands, answering questions of how individuals manage exploration and exploitation (Nosella et al. 2012). This research then follows research calls that highlight the key role of individuals across levels for the pursuit of

ambidexterity (Cantarello et al., 2012, Mom et al., 2009, McCarthy and Gordon, 2011, Lin and McDonough Iii, 2011).

Whereas literature on ambidexterity so far has proposed solutions that were aiming to accommodate and ultimately solve tensions, research findings suggest that such single level or single mode approaches are not sufficient for managing tensions of ambidexterity at different levels. In essence, this research suggests that following an ambidextrous orientation is based on a continuous and dynamic effort of managing different tensions at different levels; what Tsoukas (2003) refers to as a “collectively generated outcome as actors improvise to accommodate local contingencies and interweave their actions across space and time” (p.611).

Overall, the notion of organizational ambidexterity is closely related to the dynamic capabilities theory, that essentially argues that the firms’ own skills and internal assets and the way they are reconfigured are the basis of a firm’s competitiveness and differentiation (Tallman, 2003). In that context, sustainable advantage stems more from organizations’ intangible resources: their processes, structure and systems that are diffused across the firm, the result of people and their interactions (Tallman, 2003). Following a more dynamic perspective of different manifestations of tensions and modes of balancing, this research uncovers one aspect of these interactions. Most importantly, this research contributes to the study of ambidexterity by demonstrating that as the balance of innovation and efficiency becomes a central theme throughout all levels of organizations, one single mode of balance cannot be universally applied. Different coping mechanisms of both integration and separation co-exist according to the nature of the tensions that arise at



different organizational levels. Shifting from the more static notion of balance -as a normative assumption which prevails in the literature so far- this research argues for a dynamic process of balancing tensions within organizations (Smith and Lewis, 2011) that takes under consideration that exploration and exploitation are multi-level and multi-facet concepts (Ying, 2008). Instead of trying to eliminate organizational tensions (as if this is possible) or merely identify them this research then proposes that the pursuit of ambidexterity is based on understanding how tensions are interconnected and their underlying mechanisms.

## APPENDIX

### A. Summary of Data collection in Telco

Interviews (total 30)	Phase A. (Nov. 2010- July 2011)	Phase B. (Sep. 2011-Sep. 2012)
<b><i>Case 1. Middle Management/Operations</i></b>		
1. Service Improvement and Innovation Specialist	√	√
2. Head of Design and Integration	√	√
3. Device Application Engineer	√	
4. Innovation Program Manager	√	
5. Design Manager	√	
6. Head of Operational Excellence and Innovation	√	√
7. Internal Communications Manager	√	
8. Solutions Integration Engineer	√	√
9. Account Director	√	
10. Managed Services Chief Operating Officer	√	
<b><i>Case 2. Senior Management</i></b>		
1. Services Sales Director	√	
2. Manager Strategy & Regulatory Affairs, Head of Innovation Forum, Region Western and Central Europe	√	√
3. Head of Marketing and Communications, Region Western and Central Europe	√	√
4. Director Strategy and Business Development UK-Ireland	√	√
5. Customer Unit Head UK-Ireland	√	√
6. Vice President Managed Services & Outsourcing, Region Western and Central Europe	√	√
7. Global Director New Business Development & Innovation	√	
8. Chief Technology Officer, Region Western and Central Europe	√	√
9. Vice President Head of Communications Services, Region Western and Central Europe	√	
10. Director Strategy & Innovation		√
<b>Non Participant Observation</b>		
Global Innovation Forum (1 day teleconference) Graduate Scheme Innovation presentations & senior management meeting.		
Office observation (Local offices, Global Headquarters)	(6 weeks)	
<b>Archival Material</b>		
Company Reports, marketing material, Published articles		
<b>Communication with key informants on the emerging themes of the analysis.</b>		√

## B. Summary of Data collection in The School

Interviews (total 30)	Phase A. (Nov. 2010- July 2011)	Phase B. (Sep. 2011- Sep. 2012)
1. Dean of The School	√	
<b>Telco Case 1. Academics</b>		
1. Principal Teaching Fellow	√	√
2. Associate Professor	√	
3. Principal Teaching Fellow	√	
4. Professor	√	√
5. Professor	√	
6. Professor	√	
7. Associate Professor	√	√
8. Professor	√	√
9. Professor	√	
10. Associate Professor	√	
11. Research Fellow	√	
12. Associate Professor	√	√
13. Professor	√	√
<b>THE SCHOOL Case 2. Administration</b>		
1. Program Manager	√	√
2. Senior Assistant Registrar (Academic Services)	√	
3. Administrative Director	√	
4. MBA Executive Director	√	
5. Chief Administrative Officer	√	
6. Academic Services Officer	√	
7. Chief Administrative Officer		√
8. Operations Director		√
9. Executive Officer		√
<b>Non participant observation</b>		
School Assembly		
<b>Archival Material</b>		
School Reports and news, marketing material, published articles		
<b>Communication with key informants on the emerging themes of the analysis.</b>		√

## **C. Interview Structure**

### **1. Introduction**

- Introduction to interviewee (research project, key themes to be covered by the interview, estimated duration of interview)
- The interviewee (Years in the organization & in the specific position, further information on current role & position)
- What you like most in your role? What is the greatest challenge?

### **2. Discussion of recent organizational changes**

- I understand that there is there is a change process happening in the organization would you tell me a little bit of what this change is about?
- How would you describe the philosophy behind this change?
- Have these changes been affected by a new strategy? In what way?

### **3. Innovation (exploration)**

- How does the organization respond to change?
- Are there research and innovation goals and how are these achieved?
- What processes and structures help/ hinder research and innovation?
- Is the creativity and innovation encouraged, if so, how? (Think tanks, forums, knowledge exchange? Other? )
- From your experience, in which area/areas would you say that the organization is the most innovative and why?

### **4. Organizational Efficiency (exploitation)**

- How important would you say operational efficiency is for X? (i.e. improvements in everyday practice that allow the organization to operate more efficiently and deliver greater value )
- What are the processes and structures that help towards improving efficiency?
- In which area/areas would you say that X is most efficient and why?
- Could you give some examples? (improving quality/ lowering costs, improving its reliability, increasing levels of automated processes,

monitoring satisfaction levels, fine-tuning and continuously improving, other?)

### **5. Relationship between efficiency and innovation**

- Overall how would you describe the relationship between innovation and efficiency?
- What does innovation mean for you? What does efficiency mean for you?
- In your everyday work is efficiency and innovation equally important? (Why? /Why not?)
- How do you manage these demands? (Why? / Under which circumstances?)
- Could you give me an example from your everyday work?

### **6. Role of organizational context**

- Do you feel that the organizational environment helps you or hinders you in dealing with these demands? Examples? (structure, processes, incentives)
- What would you say is the role of the organizational culture in dealing with these demands?
- Before we finish is there anything else you would like to add?
- Thank you for your time

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