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INTRODUCTION

The primary objective of this dissertation is to better understand the impact of cognition on strategic decisions and outcomes, including strategic change, strategic inertia and strategic expansion. In recent years, a renewed interest has appeared for studies focussing on the role of cognition, i.e. the cognitive interpretations of managers and entrepreneurs, in shaping strategic decisions and outcomes (Kaplan, 2008a, 2011a; Marcel, Barr, & Duhaime, 2011; Nadkarni & Barr, 2008; Tripsas & Gavetti, 2000). This is in part due to the fact that technological innovations, especially digitization, increasingly cause industry disruptions. Such disruptions lead to strategic industry changes, whereby long-standing strategies are being threatened by the unpredictability of disruptive change. Yet disruptions also offer opportunities for strategic change and expansion.

Cognition impacts how such changes and opportunities are interpreted and acted upon (Weick, 1995). Therefore, a body of scholars in strategy and entrepreneurship currently strive to understand how cognition impacts strategic decision-making in disrupted contexts, thereby examining its relation to a range of strategic issues such as capability development, resource renewal, and strategic innovation (Benner & Tripsas, 2012; Bower & Christensen, 1995; Kaplan, 2008a; Tripsas & Gavetti, 2000). As Kaplan (Kaplan, 2011a: 689) puts it, 'despite 20 years of scholarship in cognition and strategy, there is still much to know and thus a thousand flowers [of constructs and methods] blooming is very much in order'. As such, at this moment theory does not adequately explain the fine-grained processes underlying the evolution of cognition in contexts of change, nor does it explain the processes through which opportunities are cognitively interpreted and strategically explored.

In this introduction, I will first explain why a cognitive perspective in strategy is vital to understand strategy making processes related to strategic change, strategic inertia and strategic expansion. I will then elaborate upon the focus of this dissertation as well as the motivation for

developing this dissertation. Next, I will present the structure and scope of my doctoral research.

1.1. THE COGNITIVE PERSPECTIVE IN STRATEGY

Understanding the cognitive foundations underlying strategy making is vital to our conceptualizations of strategy and strategic management. In the field of strategic management, research on strategic decision-making has adopted two perspectives: the economics school of thought views strategic decision-making as a rational process, with rational actors who make rational choices based on economic incentives, while a complementary view has focused on the role of cognition in strategic decision-making (see review by Kaplan, 2011a). Building on Cyert and March's behavioral theory of the firm, the latter perspective presents a strategic decision-centered view that includes the notion of bounded rationality as an underlying central concept (Cyert & March, 1963; Gavetti, Levinthal, & Ocasio, 2007), whereby cognition defines strategic decision-making (Porac, Thomas, & Baden-Fuller, 1989). Decision-makers subjectively interpret their competitive environment and then act upon these interpretations (Weick, 1979). As such, strategic decisions are shaped by decision-makers' interpretations, which ultimately results in specific strategic decisions and outcomes (Daft & Weick, 1984).

Porac et al. (1989) introduced the aspect of cognition in strategic management research. Over the past two decades, cognition has become a well-established factor in strategic management theory (Kaplan, 2011a; Porac et al., 1989). Research on cognition focuses on three main aspects. First, to strengthen the concept's legitimacy, research on the role of cognition in strategic management tackles the creation and validation of measures of cognition (Porac & Thomas, 1994; Reger & Huff, 1993). Second, literature focuses on testing the accuracy of decision-makers' managerial cognition (Zajac & Bazerman, 1991). Third, cognition is studied in relation to other organizational factors (e.g., incentives, capability development, etc.) and strategic outcomes, thus exploring the impact of cognition on strategic outcomes (Benner & Tripsas, 2012; Eggers & Kaplan, 2009; Kaplan, 2008a; Nadkarni & Barr, 2008). It is within this third domain of interest that I embed my research.

To comprehend the impact of cognition on strategic outcomes, research has attempted to unveil the processes through which cognition shapes strategic decisions (see overview Kaplan, 2011a). In sum, cognition influences the way individuals 'attend to cues in the environment,

interpret the meaning of such cues and externalize these interpretations via concrete activities' (Porac et al., 1989). However, it remains unclear through what processes cognition itself develops. Literature on cognition and strategy still lacks insights into the actual micro-processes by which decision-makers' cognitive understanding of change is constructed or adapted over time (Cornelissen, Holt, & Zundel, 2011; Kaplan, 2008b).

Such insights would provide explanations related to why some decision-makers are able to timely sense, seize and shape strategic industry change, while others are not (Schoemaker, Teece, & Leih, 2016; Teece, Pisano, & Shuen, 1997). While some managers and entrepreneurs are able to sense, seize and even shape opportunities brought forth by change, thus engaging in strategic change or expansion, others are impeded by strategic inertia. Such inertia ultimately results in a loss of competitive advantage. In sum, we see that while certain decision-makers are able to adequately respond to disruptive changes, many are subject to strong inertial forces (Gilbert, 2005; Tripsas & Gavetti, 2000). Existing theory acknowledges that the cognitive understanding of changes represents an influential element slowing down or impeding the ability of decision-makers to act or react (Porac et al., 1989; Porac, Thomas, & Baden-Fuller, 2011).

The application of behavioral decision theories to explain strategic change, strategic inertia and strategic expansion in changing industries represents a much needed development in strategic management research. Rather than merely focusing on decision-makers as rational actors, the field is in need of studies highlighting the role of cognition with regards to the occurrence of competitive differences in industries dealing with disruptive change (Kaplan, 2008a, 2011a). Hence, the connection between macro-level change – including strategic industry change brought for by disruption – and micro-level foundations of individuals' evolving cognitive understanding of the opportunities such change engenders – in terms of strategic change, strategic inertia or strategic expansion – represents a valuable avenue to extend existing theory.

1.2. FOCUS OF THE DISSERTATION

The concept of cognition refers to individuals' or groups of individuals' subjective interpretations of themselves and their environment (Porac et al., 1989, 2011). Interestingly, cognition can be related to interpretations on a multitude of strategically relevant topics, including resource allocation and capability development, identity-related issues, the

competitive environment, technological innovation, etc. Thus, when examining the impact of cognition on strategic outcomes, such examination allows to connect cognition with strategic outcomes and a multitude of strategically relevant issues. In my dissertation I focus on three such issues, namely *resource orchestration*, *framing practices*, and *professional identity*. I briefly explain and motivate the selection of these three issues below, as these represent the cornerstones of each of the following chapters in this dissertation.

1.2.1. Cognition and resource orchestration

To strategically explore opportunities in a changing competitive environment, decision-makers are often required to (re)structure and (re)arrange existing and new resources and capabilities. Resource orchestration theory has been advanced to address the processes by which managers and entrepreneurs accumulate, combine, and exploit resources and capabilities to support current opportunities while simultaneously also developing future opportunities (Sirmon & Hitt, 2003; Sirmon, Hitt, & Ireland, 2007; Sirmon, Hitt, Ireland, & Gilbert, 2011). According to resource orchestration theory, specific combinations of resources, capabilities, and managerial action ultimately define firm performance and competitive advantage (Sirmon et al., 2007; Sirmon et al., 2011).

With regard to such an adaptation of firm resources and capabilities, in strategy literature Danneels (2011) introduces resource cognition as a vital element to explain (the absence of) new capability development within firms. Danneels argues that cognition about a firm's resources and capabilities influences the direction of the firm's renewal, as the identification and understanding of the potential of resources and capabilities affects which strategies firms adopt or fail to adopt. Such cognition refers to decision-makers' resource schemas which can be conceptualized as 'cognitive models held by managers involving the identification of firm resources and the understanding of their fungibility' (Danneels, 2011: 26). Resource cognition thus consists of decision-makers' conceptualization of the potential and most optimal usability of resources and capabilities to explore and exploit opportunities under conditions of uncertainty. In sum, Danneels (2011) views resource cognition as an element influencing a firm's ability to develop new capabilities and hence foster its strategic renewal.

Other scholars have likewise adopted a cognitive perspective to explain resource management and new capability development in firms (e.g. Eggers & Kaplan, 2013a) since these are useless without managerial interpretation of their potential application to support strategic renewal

(Barney, Ketchen, & Wright, 2011; Garbuio, King, & Lovallo, 2011; Maritan & Peteraf, 2011). In a similar vein, Taylor and Helfat (2009) have acknowledged the impact of cognition on decision-makers' ability to use existing complementary assets in support of a new technological opportunity.

Interestingly, Danneels (2011) called for additional research on the process of 'resource cognizing' or how decision-makers learn to understand their own resources and capabilities. The second chapter of this dissertation implicitly focuses on such resource cognizing, as it addresses a decision-maker's - in this case an entrepreneur's - evolving ability to steer resource orchestration. The chapter talks to how an entrepreneur may learn to recombine and reconfigure resources and routines to adjust to new developments in his industry, which ought to prove especially valuable to survive and engage in strategic expansion in a dynamic environment (Zahra, Sapienza, & Davidsson, 2006).

1.2.2. Cognition and framing practices

Strategic management scholars increasingly consider cognition to be a dynamic process of meaning construction (e.g. Eggers & Kaplan, 2013b; Kaplan, 2008a, 2011a). Specifically, a recent stream of research on strategic decision-making states that as individuals and collectives of individuals attempt to cognitively grasp the importance and implications of disruptive change, they assign meaning to a context or a change via framing (e.g. Eggers & Kaplan, 2013b; Gurses & Ozcan, 2015; Kaplan, 2008a, 2011a). Framing refers to individuals' or groups of individuals' attempts through language to engage in meaning construction and frame courses of actions related to the change at hand (Cornelissen & Werner, 2014). For instance, framing a change as an opportunity may impact strategic decision-making in a different way as compared to when change is framed as a threat (Gilbert, 2005). Framing is thus an outwardly oriented articulation of an understanding of a context. As Fiss and Hirsch (2005) clearly explain, framing entails the strategic process of creating specific meaning in line with specific interests.

A growing body of studies in strategic management research focuses on the role of language as a vital instrument in strategic decision-making processes (i.e. following the linguistic turn in social sciences) (Balogun, Jacobs, Jarzabkowski, Mantere, & Vaara, 2014; Kaplan, 2008b, 2011b; Vaara, Kleyman, & Seristo, 2004; Vaara & Tienari, 2008; Vaara & Whittington, 2012). The recent interest of strategic management scholars into the role of language and its impact on the strategic decision-making process and strategic outcomes, can be traced back to a

growing conceptualization of strategy as practice (Kaplan, 2008b, 2011b; Vaara et al., 2004; Vaara & Whittington, 2012). Language practices, including framing, are thus seen as reflective of how actors (re)interpret and (re)create meanings. By focussing on such language practices, a growing understanding of the micro-level foundations of strategic decision-making develops, thus contributing to the study of strategy as practice.

However, strategy research putting an emphasis on the linguistic side of strategic decision-making is still in need of further development (Vaara, Sonenshein, & Boje, 2016). As such, Gao, Yu and Cannella (2016) recently highlighted the research opportunities to increase our understanding about how language matters in strategic decision-making processes, specifically in terms of the role that framing plays (see also Gurses & Ozcan, 2015). Studying framing practices to understand the micro-level foundations of cognition represents a valuable avenue to extend strategic management theory on the impact of cognition on strategic decision-making processes and strategic outcomes. Specifically, decision-makers' framing practices reflecting the construction or adaptation of cognition over time in the context of disruptive change largely remain to be explored (Cornelissen et al., 2011; Kaplan, 2008b). The third chapter of this dissertation explicitly focuses on the evolutionary process of framing a disruptive change and how such process reflects change in cognition, which ultimately contributes to strategic change and strategic inertia.

1.2.3. Cognition and professional identity

Professional identity has been defined as professionals' cognitive understanding of 'what the central characteristics are of their profession, what it means to develop a life career and to share an identity with other professionals, based on what one does' (Pratt, Rockmann, & Kaufmann, 2006, p.236). Such cognitive self-conceptualization of individuals and collectives of individuals (e.g., organizations, professions and industries) in terms of what one does and what one's occupation entails (Pratt et al., 2006), shapes, sustains and steers behaviors of individuals and collectives of individuals (Patvardhan, Gioia, & Hamilton, 2015). As such, for individuals and collectives of individuals, the cognitive understanding of professional identity is prevalent and strong. Yet it is also consequential with regards to how firms and industries populated by professionals strategically respond to disruptive change, i.e. engage in strategic decision-making and prompt specific strategic outcomes.

Strategic management scholars have recently started with integrating insights on professional identity dynamics into theory on strategic industry change. With regards to the relation between industry change induced by technological innovation and professional identity, a primary contribution is Nelson and Irwin's (2014) study of librarians and the introduction of internet search. They show how cognitive interpretations of technology are conditioned by librarians' cognitive understanding of professional identity and how such interpretations evolve and in turn impact understandings on professional identity. Hence, identity theory's emphasis on identity processes among collectives of individuals, including professionals, allows other streams of research to study industry-wide phenomena using a complementary perspective (Gioia, Patvardhan, Hamilton, & Corley, 2013).

Over the past decades, professional work and demarcated professional entities have become increasingly present in our society, an evolution that implies and underlines the importance of understanding the role of professional identity processes (Ashford, George, & Blatt, 2007, p.67). However, as Anteby, Chan and DiBenigno (2016) put it in a recent call to focus on professions, management and organizational scholarship have largely failed to keep pace with the rising prominence of professional dynamics and their impact on strategic industry outcomes. Such lack of understanding professional dynamics may lead to misinterpretations regarding organizational and industry dynamics at large, ultimately hampering the development of strategic management theory (Anteby et al., 2016). The fourth chapter of this dissertation intertwines professional identity theory and strategic management research to better understand how changes initiated in professionals' cognitive understanding of their identity mirror and impact industry-wide strategic change.

1.3. MOTIVATION FOR THE DISSERTATION

Strategic management research and theory increasingly integrate behavioral decision theories to explain prevalent strategic outcomes related to strategic industry change, including strategic change, strategic inertia and strategic expansion. Such strategic outcomes manifest in many shapes, including new business model development, business model transformation, change in professions, the pervasiveness of identity features, collective resistance to change, the development of nascent markets, new product or business line introductions, etc. Emphasizing and studying the role of cognition with regards to such outcomes fits into this recent development. Specifically, an examination of the micro-processes characterizing individuals'

evolving cognitive understanding in contexts of strategic change, strategic inertia or strategic expansion, ought to offer much needed insights into the micro-level foundations of strategic behavior in case of strategic industry change and evolution.

The studies in this dissertation extend existing strategic management theory on strategic industry change by accentuating the role of micro-level processes, including resource orchestration processes, framing processes, and professional identity dynamics, in relation to macro-level developments. By gaining insights and knowledge related to these micro-level processes, an improved understanding of macro-level change and adaptation processes to such change develop. Theoretically, the study of the above-mentioned micro-processes complements existing theory, thereby pinpointing the decisive role cognition can play with regards to the deployment of specific micro-level processes in change contexts. Highlighting such role opens avenues to explain strategic change, strategic expansion and strategic inertia more in-depth, and to develop a more complete understanding of the dynamics underlying these strategic outcomes.

Importantly, to pinpoint micro-level processes and dynamics underlying strategic change, strategic expansion and strategic inertia, appropriate research methods are needed to capture such processes and dynamics. Hence, throughout this dissertation rich research methods were used to engage in an interpretative, grounded theory building approach. Specifically, we employed a qualitative, case-study based approach, whereby written and verbal accounts of decision-makers were used to study cognition. However, whereas existing strategic management studies mainly focus on the study of letters to shareholders in companies' annual reports to include written or verbal statements as indirect indicators of decision-makers' cognition (Barr & Huff, 1997; Barr, Stimpert, & Huff, 1992; Kaplan, 2008b, 2011b; Nadkarni & Barr, 2008), the studies in this dissertation aim to extend such methodological approach. The studies in this dissertation include other types of written or verbal accounts to gain rich and detailed insights regarding individuals' cognitive interpretations, including blogposts, presentations, columns, speeches, etc. These sources represent a real-time forum through which actors articulate their cognitive interpretations. In-depth examinations of such accounts offer new research opportunities. In fact, a growing number of strategy researchers who are interested in all sorts of dynamics underlying strategic outcomes increasingly study strategy adopting a strategy as practice perspective (Vaara & Whittington, 2012). Linguistic practices, and thus the study of written and verbal accounts, increasingly come into play in this growing stream of strategy research (Vaara & Whittington, 2012).

It is with these theoretical and methodological developments in mind, that the studies in this dissertation were set up and developed.

1.4. STRUCTURE AND SCOPE OF THE DISSERTATION

This dissertation comprises three empirical studies which cover a range of topics and concepts including resource orchestration and capability development, framing practices leading to cognitive inertia, and professional identity transformation. The following chapters each present a single research paper which extensively renders one of the empirical studies. Each chapter is built up according to a similar structure. First, a general introduction is provided on the main topic of the empirical study. Next, an extensive theoretical framework is provided to highlight the theories underlying the study, followed by an elaborate presentation of the research methodology. Findings are presented and discussed, along with the main implications of the study. The final chapter in this dissertation offers a general conclusion and discusses the main findings and implications of the dissertation along with future research opportunities rooted in the empirical chapters.

In the remainder of this first chapter, I present a brief overview of each of the following chapters. I also provide a table which offers an overview of the research questions, contributions and methodological approaches applied throughout this dissertational research.

Chapter 2 of this dissertation deals with the role of resource orchestration for the exploration and exploitation of opportunities in dynamic environments. It presents a range of newly identified processes underlying resource orchestration and capability development to support strategic expansion. The study initially aimed at exploring the experimentation strategies and learning dynamics decision-makers, in this case entrepreneurs, would engage in when developing strategies and business models in uncertain and highly ambiguous contexts. Business model design and its fit with business strategy both matter to firm performance (Teece, 2010; Zott & Amit, 2007, 2008). Despite the acknowledgement of the importance of cognitively understanding and learning how to engage in business model design, few studies have looked systematically at how such cognitive understanding and learning manifest over time and impact strategic outcomes.

Together with my co-authors Miguel Meuleman, Marion Debruyne and Mike Wright, I engaged in the study of such evolving dynamics. Specifically, we opted to study a portfolio

entrepreneur within the digital web industry, a dynamic context requiring the entrepreneur to repeatedly engage in opportunity exploration to strategically expand. Moreover, over a period of several years the entrepreneur we studied had systematically written down his accounts of the evolution of his portfolio of ventures and produced numerous writings on his entrepreneurial learning and reasoning processes in a series of blogs. These blogs provided a very valuable source of real-time and longitudinal data on the entrepreneur's cognitive understanding and reasoning patterns.

The centrality of learning processes and the role of resource cognition are acknowledged in strategy research (Danneels, 2011). Yet we ultimately opted to position the study within entrepreneurship theory and incorporated resource orchestration theory into our study instead as our main underlying theoretical framework. As such, Chapter 2 establishes how resource orchestration and capability development are instigated across a portfolio of ventures and can ultimately impact strategic outcomes, in this case strategic expansion. Specifically, we identify eight distinctive resource orchestration subprocesses that we group into three main resource orchestration processes, namely *sharing*, *transforming*, and *harmonizing*. Whereas extant research primarily examined how decision-makers orchestrate resources within a single firm to develop competitive advantage (Sirmon & Hitt, 2003; Sirmon & Hitt, 2009; Sirmon et al., 2007; Sirmon et al., 2011), our findings extend the literature by building theory on how an entrepreneur gradually gains an understanding of resource orchestration *across* a portfolio of ventures to facilitate the emergence of synergies when exploring and exploiting opportunities. In sum, we extend strategy and entrepreneurship literature by theorizing on the strategic alteration of resource and capability configurations when exploring and exploiting opportunities in dynamic contexts in an attempt to strategically expand.

Chapter 3 tackles the evolutionary process of decision-makers' framing of strategic change in an effort to shed light on the occurrence of cognitive inertia among established incumbent firms. Together with my co-author Marion Debruyne, I engaged in a longitudinal process study of how framing practices, as a reflection of cognition, evolve in a context of disruptive change. As disruptive change occurs, decision-makers' cognitive understanding of such change and its implications may differ, which has long-term consequences in terms of capability development, new product development, etc. Our initial aim was to define, as cognition has such an important impact of strategic decision-making and strategic outcomes, what then defines cognition: how is cognition adapted in change contexts and how does such adaptation differ among decision-makers? As we set out to map and track changes in cognitive understandings, existing theory

including work by Gilbert (2005), Fiss and Hirsch (Fiss & Hirsch, 2005), and Cornelissen and Werner (Cornelissen & Werner, 2014) pointed us towards the role of framing to explore such dynamics.

In parallel to developing a primary theoretical framework to guide our initial research activities, we searched for an inspiring and revealing context. Although a number of contexts were considered, including the pharmaceutical industry and academia, we chose to focus on two established players in the Belgian newspaper industry. First and foremost, the industry appeared to be an excellent setting to study decision-makers' understanding of disruptive change, in this case the advent of online newsmaking, and how such change stirs experimentation with technological possibilities. Gaining an in-depth understanding of the context, we became intrigued by the strategic experimentation (i.e. business models experimentation) efforts that were widely present and, more importantly, extensively contemplated, discussed and documented by decision-makers in very different types of data sources, including press releases, press interviews, annual reports, etc. The richness of these written documents, produced and published over a long period of time and containing extensive direct quotes from decision-makers, offered an absolute and atypical wealth of detailed data.

In Chapter 3, we develop a typology of framing practices and track the evolutionary framing paths decision-makers in the newspaper industry engage in as they attempt to grasp the implications of digitization for their media group's activities. As such, we extend theory on the impact of cognition on incumbent inertia by unpacking the framing processes that relate to cognitive change and cognitive inertia, and thus to strategic change and strategic inertia. We present a grounded theory model displaying such evolutionary process of framing. Ultimately, if we specifically zoom in on the framing practices underlying cognitive change in our model, these point to the development of an incumbent's absorptive capacity with regards to new technologies. As such, our study on framing sheds much needed light on the micro-level cognitive dynamics underlying incumbents' new capability development and absorptive capacity in the face of strategic change.

Chapter 4 is rooted in the research presented in Chapter 3. As I engaged in the detailed study of newspaper industry actors' framing practices and gained insights into their understanding of the newspaper industry, the competitive dynamics, the required capabilities to engage in (online) newsmaking, etc., I increasingly became aware of the extent to which cognitive

understandings regarding these newsmakers' professional identity defined their consequent engagement and use of digital technologies.

Consequently, together with my co-authors Katleen De Stobbeleir and Marion Debruyne, I engaged in the longitudinal study of professional newsmakers' collective-level identity transformation following the advent of digital technologies. We conceptualized these professional newsmakers as a collective of professionals demarcated by collective-level identity processes (i.e. shared identity processes). To understand the changes that would occur in the cognitive understanding of Belgian professional newsmakers regarding what newsmaking entails and what their professional identity entails, we collected data that would allow us to map the industry-wide and collective-level discursive practices regarding professional identity (accounts in professional journals, editorials on the role of newsmakers in society, speeches at industry-wide conferences, etc.). As a result, Chapter 4 examines the recursive interrelations between professional identity and strategic industry change by focusing on the discursive practices related to professional identity transformation.

Blending identity theory on professional identity dynamics and strategic management theory on strategic industry change, Chapter 4 presents a process model which captures the dynamic process through which the professional identity of a collective of professionals transforms, i.e. the reconstruction of a coherent professional identity congruent with the strategic industry change at hand. We find that professionals renegotiate core elements constituting their identity by converting old cognitive understandings of professional identity into new ones and by expanding cognitive understandings of professional identity by means of new elements. As such, we highlight how professionals in the newsmaking industry moved from old-school understandings (i.e. the professional journalist as a writer of the news) to entrepreneurial understandings of their professional identity (i.e. the professional journalist as an entrepreneur in the newsmaking industry). Ultimately, we highlight the interrelations between strategic industry change as a whole and journalists' evolving collective identity: professional identity defines professionals' cognitive understanding of industry changes and their consequences, while strategic industry change shapes professionals' cognitive understanding of their identity.

Table 1 provides an overview of the different studies that make up this dissertation.

Table 1 Overview of the dissertation

Chapter	Research questions	Context	Methods	Main contributions
Chapter 2: **Portfolio entrepreneurship and resource orchestration**	- What specific processes of resource orchestration across a portfolio of ventures are aimed at exploring and exploiting new opportunities? - How do these processes develop over time to facilitate enduring entrepreneurship?	Digital web industry, portfolio of ventures	Single case study (portfolio level), interpretative, grounded theory building approach	Contribution to resource orchestration theory: identification of eight new cross-portfolio processes Contribution to enduring entrepreneurship literature: cross-portfolio resource orchestration enables synergy creation Contribution to cognition literature: evolving understanding of resource orchestration enables synergy creation Contribution to dynamic capabilities literature: capability development and diffusion
Chapter 3: **Talk the talk, walk the walk: Framing strategic change following disruption**	- What are the framing practices that lead firms to inertia in response to disruptive change? - How do these practices evolve over time?	Newspaper industry, incumbent firms	Comparative case study (company level), interpretative grounded theory building approach	Contribution to strategic inertia theory: introduction of framing dynamics Contribution to cognition literature: framing practices as micro-foundations of cognitive frames and, hence, cognitive change or cognitive inertia Contribution to strategic decision-making theory: framing as a vital strategic instrument Contribution to dynamic capabilities literature: framing dynamics underlying absorptive capacity
Chapter 4: **Professional identity transformation and strategic industry change**	- How are changes realized in professionals' cognitive understanding of their professional identity? - How does professional identity transformation interrelate to strategic industry change?	Newspaper industry, collective of professionals	Single case study (industry level), interpretative grounded theory building approach	Contribution to identity theory: professional identity change as a process of meaning (re)construction via discursive practices Contribution to strategic industry change theory: introduction of professional identity dynamics

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CHAPTER 2

PORTFOLIO ENTREPRENEURSHIP AND RESOURCE ORCHESTRATION

ABSTRACT

This study examines the role of resource orchestration for the exploration and exploitation of opportunities through portfolio entrepreneurship. Adopting a single case study approach, we identify eight distinctive resource orchestration subprocesses that we group into three aggregate resource orchestration processes that enable the development and exploitation of a set of resources and capabilities across a portfolio of ventures. Our findings extend the literature on enduring entrepreneurship by building theory on how resource orchestration across a portfolio of ventures facilitates the emergence of synergies when exploring and exploiting opportunities.

Key words: portfolio entrepreneur, resource orchestration, exploration/exploitation, enduring entrepreneurship, strategic entrepreneurship

2.1. INTRODUCTION

Entrepreneurship involves identifying and exploiting opportunities in a setting characterized by uncertainty (Shane & Venkataraman, 2000). The strategic entrepreneurship perspective has stressed the need to focus on how firms create change by exploring opportunities in the external environment while at the same time exploiting those opportunities to sustain value creation across time (Hitt *et al.*, 2001; Hitt *et al.*, 2011). Some firms and individuals consistently engage in high levels of entrepreneurial behavior through constant renewal and repeated acts of entrepreneurial activity such that entrepreneurship endures across time and systems. A key question that arises then is what processes and organizational practices help firms and individuals achieve enduring entrepreneurship?

The development of a group of new ventures in the context of portfolio entrepreneurship provides an opportunity to investigate these processes and organizational practices. Portfolio entrepreneurship has proven to be a valuable entrepreneurial development model (Carter & Ram, 2003; Lechner & Leyronas, 2009). Portfolio entrepreneurs simultaneously hold ownership stakes in two or more independent ventures that have either been established, purchased, and/or inherited (Westhead & Wright, 1998). The characteristics of portfolio entrepreneurs and their motivations to engage in small business group formation have been extensively researched (Iacobucci, 2002; Iacobucci & Rosa, 2010; Ucbasaran *et al.*, 2008; Ucbasaran, Westhead, & Wright, 2009). However, the micro-processes by which portfolio entrepreneurs obtain and leverage resources and capabilities across a portfolio of ventures to exploit new opportunities and engage in enduring entrepreneurship in such a setting remain a black box.

Resource orchestration theory has recently been advanced to address the previous neglect of the processes by which managers accumulate, combine and exploit resources to support current opportunities while developing future opportunities to achieve a competitive advantage (Sirmon & Hitt, 2003). Resource orchestration theory suggests that it is the combination of resources, capabilities, and managerial action that ultimately results in superior firm performance (Chadwick, Super, & Kwon, 2014; Helfat *et al.*, 2007; Sirmon, Hitt, & Ireland, 2007; Sirmon, Hitt, Ireland, & Gilbert, 2011). However, we still lack detailed insights into how firms orchestrate resources in dynamic environments to facilitate the implementation of firm level and corporate level strategies to sustain enduring entrepreneurship (Sirmon *et al.*, 2011).

Additionally, extant research has primarily examined how managers orchestrate resources within a single firm to develop capabilities and sources of competitive advantage. A separate important and yet unexamined issue concerns how resources might be orchestrated across a portfolio of ventures to develop portfolio level capabilities and synergies when pursuing opportunities.

We build on this prior work to address an important gap in understanding the behavior of portfolio entrepreneurs and by doing so shed new light on resource orchestration processes across a portfolio of ventures that help to sustain entrepreneurial activity. Accordingly, we address the following research questions: *What are specific processes of resource orchestration across a portfolio of ventures aimed at exploring and exploiting new opportunities? How do these processes develop over time to facilitate enduring entrepreneurship?*

Following previous studies on knowledge and capability development (Cope, 2011; Deakins & Freel, 1998), we use a single interpretive case study approach. Through an iterative process involving rich narrative accounts of both successful and failed activities of a portfolio entrepreneur in the digital web industry, we identify eight distinctive resource orchestration subprocesses *across* the entrepreneur's portfolio of ventures which enable the exploration and exploitation of new opportunities. We group these into three aggregate resource orchestration processes new to resource orchestration theory (*sharing*, *transforming* and *harmonizing*). In essence, resource orchestration across a portfolio of ventures enables the portfolio entrepreneur to create and exploit synergies in the pursuit of new opportunities over time.

We contribute to theory development in different ways. First, we add to the enduring entrepreneurship literature by building theory on how resource orchestration across a portfolio of ventures may facilitate the emergence of synergies when exploring and exploiting new opportunities. Second, in doing so, we respond to the general call by Sirmon *et al.* (2011) to uncover new processes underlying resource orchestration and capability development to support an entrepreneurial strategy in dynamic environments. Third, examining portfolio entrepreneurs enables us to extend previous studies by providing a more fine-grained analysis of the distinctive constructs associated with the resource orchestration processes *across* a group of ventures that have hitherto been largely neglected (Sirmon *et al.*, 2011). As such, we contribute by beginning to identify some boundary conditions of Sirmon *et al.*'s (2007) general framework on resource orchestration and more generally add to the understanding of

heterogeneous resource positions between firms (Maritan & Peteraf, 2011). Our findings suggest that simply extending existing resource orchestration theory to across firms/portfolio entrepreneurship contexts would miss important distinctive mechanisms in the resource orchestration process.

2.2. THEORETICAL BACKGROUND

The strategic entrepreneurship perspective stresses the importance of resource orchestration practices to support the simultaneous exploration and exploitation of opportunities to sustain firm performance. Merely looking at the resources a firm possesses provides an incomplete understanding of company performance. Resource orchestration theory emphasizes the role of managerial action in mobilizing and leveraging firm resources to achieve strategic objectives (Hansen, Perry, & Reese, 2004; Sirmon *et al.*, 2011). The orchestration of resources is critical to support processes to help develop and leverage capabilities (Rindova & Kotha, 2001; Wales *et al.*, 2013). Resource orchestration practices include the processes of *structuring* the portfolio of resources (i.e., acquiring, accumulating, and divesting), *bundling* resources to build capabilities (i.e., stabilizing, enriching, and pioneering), and *leveraging* capabilities in the marketplace (i.e., mobilizing, coordinating, and deploying) to create value (Sirmon *et al.*, 2007).

As firms engage in resource orchestration, they engage in the constant trade-off between the exploration of new possibilities and the exploitation of existing activities, which entails complications in allocating scarce resources across activities. According to March (1991), exploration is characterized by search, experimentation, innovation, play and flexibility, while exploitation is defined by efficiency, selection, implementation and execution. March portrays the trade-off between exploration and exploitation in terms of learning processes or behaviors which organizations engage in as they attempt to adapt to their context. Adding to March's work, scholars have focused their attention on the outcomes of exploration and exploitation to distinguish between the two concepts, linking exploration to radical innovation and exploitation to incremental innovation (Ireland & Webb, 2009). Interestingly, in their work on strategic entrepreneurship and the successful transition from exploration to exploitation, Ireland and Webb (2009) explicitly recognize that as a firm engages in exploration or exploitation, it uses different processes to balance both behaviors. Successful exploration is then linked to the ability to efficiently manage a breadth of resources as a firm searches for

new sources of future competitive advantage, thereby keeping in mind the uncertainty related to the potential effectiveness of such resources. In contrast, successful exploitation is connected to the ability to incrementally enhance current sources of competitive advantage, thus efficiently orchestrating a more narrow set of resources which represent the building blocks of such current competitive advantage.

Resource orchestration poses specific challenges for entrepreneurial firms (Benner & Tushman, 2003; Sirmon *et al.*, 2011). Emergent entrepreneurial firms need to orchestrate resources to support their nascent business model under conditions of uncertainty (Rutherford, Buller, & McMullen, 2003). During exploration attempts, experimental resource allocation patterns are frequently used to identify valuable and potentially rare operational and product configurations to obtain a competitive advantage. As the firm starts to grow, resource orchestration activities will shift towards structuring the organization such as implementing formalized procedures and adding a managerial hierarchy in order to facilitate exploitation (Daily & Dalton, 1992).

A key question is how entrepreneurial firms manage their limited set of resources more efficiently and effectively during the start-up and growth phases (Wales *et al.*, 2013). Entrepreneurial firms suffer from 'liabilities of smallness' resulting from (1) their limited levels of slack resources and (2) potential inefficiencies in using their resources (Stinchcombe, 1965; Thornhill & Amit, 2003). One way to deal with these resource constraints is by setting up interfirm collaborations to access critical resources (Harrison, Hitt, Hoskisson, & Ireland, 2001; Wiklund & Shepherd, 2009; Zahra, Gedajlovic, Neubaum, & Shulman, 2009) and to acquire new knowledge (Lane & Lubatkin, 1998; Yli-Renko, Autio, & Sapienza, 2001). By combining complementary resources and capabilities firms can realize synergies (Wang & Zajac, 2007). However, this depends both on the potential for synergistic resource complementarity, as well as the firm's effectiveness in orchestrating resources *within* and *across* firm boundaries to realize those synergies (Capron, Dussauge, & Mitchell, 1998; Madhok & Tallman, 1998; Wiklund & Shepherd, 2009).

Resource orchestration theory has mostly focused on *within* firm processes that enable firms to explore and exploit opportunities. However, given the emerging theoretical approach, it is unclear whether similar processes apply *across* a group of ventures and how this might lead to synergies when initiating new entrepreneurial activity. Portfolio entrepreneurship represents a distinctive context in which to examine these issues across a group of loosely coupled firms.

Through developing separate businesses with legal autonomy, portfolio entrepreneurs can explore new opportunities, yet assure strategic and operational autonomy for their new activities (Iacobucci, 2002; Lechner & Leyronas, 2009). The mechanisms of value creation in portfolio entrepreneurship have received less consideration than those characterizing single firm contexts, yet are crucial to understanding how portfolio entrepreneurs simultaneously engage in exploration and exploitation activities, and thus enduring entrepreneurship.

One element that holds the potential for enduring entrepreneurship in the context of portfolio entrepreneurship concerns the underlying processes supporting resource and capability development (Cope, 2005; Ucbasaran *et al.*, 2008; Unger *et al.*, 2011) and more generally how resource orchestration contributes to this. First, resource constraints within entrepreneurial ventures require a flexible approach allowing adaptation to new situations (Cainarca, Colombo, & Mariotti, 1992). Portfolio entrepreneurs can leverage and transfer knowledge and capabilities from multiple business ownerships to exploit new business opportunities efficiently in a dynamic environment (Rosa, 1998). Second, Sirmon *et al.* (2011) have stressed the importance of focusing on the locus of resource orchestration activities and how this impacts the flow of knowledge *within* and *across* organizations. Portfolio entrepreneurship holds the potential for newly acquired knowledge to be applied, exploited and recontextualized in the entrepreneur's group of businesses.

2.3. RESEARCH METHODOLOGY

2.3.1. A longitudinal single-case study approach

Our aim was to elaborate the emerging theory on resource orchestration in a setting of enduring entrepreneurship involving a portfolio of ventures, thereby refining and complementing existing concepts (Locke, 2001). We adopted a longitudinal single-case study approach based on the narrative of a portfolio entrepreneur.

A case study approach is especially valuable when researching how and why questions in new topic areas, as here (Eisenhardt & Graebner, 2007; Suddaby, 2006). Since little is known about the processes underlying resource and capability orchestration across ventures in an entrepreneurial setting, we aimed to identify key building blocks of these processes and their emergence. We adopted a single-case design because of the revelatory nature of the case to

which we were offered unusually detailed access. The narrative-based approach has become well accepted as a valid method for interpretive studies of entrepreneurship (Cope, 2011; Hjorth & Steyaert, 2004). In particular, we used it to develop an understanding of how resource orchestration processes unfold as the entrepreneur's portfolio of ventures develops.

Based on the detailed case story of the portfolio entrepreneur, we engaged in theory elaboration using a grounded theory-based approach (Glaser & Strauss, 1967) to better understand unexplored dynamics underlying resource orchestration processes across a group of ventures. Our inductive approach entailed many cycles of confrontation between data and theory, each iteration directing us to additional data and drawing on additional concepts and theoretical categories. We followed the approach described by Gioia *et al.* (2013) to develop new concepts and to bring 'qualitative rigor' to the research. The resulting model includes various intermediary conceptualizing steps of first- and second-order coding between raw case data and theory.

2.3.2. Empirical setting

We looked for a context where entrepreneurs need to continuously explore and exploit opportunities in an ever changing setting. As venturing into emerging markets typically requires entrepreneurs to explore new domains and learn to perform new activities (Crossan, Lane, & White, 1999), we looked for a nascent and dynamic industry. We studied the growth of a Belgian entrepreneur's portfolio of firms, including the development of a digital web agency called Digiwiz (a pseudonym) and related ventures. Between 2006 and 2013, the entrepreneur was simultaneously involved in nine independent ventures of which two ceased to exist. One venture is a holding company supporting a network of eight small independent ventures.

Digiwiz was founded in 2006 by entrepreneur Bart Bruyne (a pseudonym) and a business partner. Digiwiz started out as a web agency focusing solely on website development activities for small and medium size enterprises, thereby deploying Digiwiz' web content management system (WCMS) named Knife. Digiwiz diversified its offering and moved towards integrated approaches, thereby combining website development, web content management system development and online marketing components. While exploring nascent markets and new activity domains in the digital industry, the entrepreneur developed new business activities inside as well as outside of Digiwiz' firm boundaries. Table 2 provides an overview of these

different business activities. Importantly, we not only focused on ventures set up as independent entities, but also studied the set-up of new business activities within existing firm boundaries, as these 'internal ventures' played an important intermediary role in the entrepreneur's resource orchestration activities. We classified new business activities as internal ventures where the activity (1) was characterized by a different value proposition compared to the existing activities, (2) generated revenues independent of existing activities, or (3) became an independent entity later on.

The development and evolution of the entrepreneur's portfolio of ventures can be contextualized at the intersection of a number of nascent markets in the digital industry, including website development, WCMS development and online marketing activities. This research setting appeared attractive to study enduring entrepreneurship and resource orchestration as it captures the dynamic and uncertain nature of new markets, characterized by numerous diversified competitors and ever-changing technology. Entrepreneurs attempted to make sense of, learn and develop adequate market propositions for nascent markets in the digital industry (Santos & Eisenhardt, 2009). The steady development of the entrepreneur's portfolio of ventures illustrates his aspiration to explore and exploit new business opportunities brought forth by swift technological advancements and the resulting market dynamics. Between 2006 and 2013, the entrepreneur's portfolio grew from one to seven independent and viable ventures, while its turnover increased from EUR 850,000 to EUR 5,380,000. Moreover, in 2014 the business group was ranked 6th in a top 50 of web builders in Belgium (Van Leemputten, 2014).

2.3.3. Data collection

Data collection took nearly 2.5 years. From early 2011 to mid–2013, we collected data on developments between 2006 and 2013 in the entrepreneur's portfolio and the digital industry. Various primary and secondary data sources were used, enabling us to corroborate information and develop a full understanding of the case (Yin, 1984). An overview of data sources can be found in Table 3.

Table 2 Overview of the business activities and ventures of the entrepreneur (2006-2013)

Year	Business activity	Description	Independent business or internal Digiwiz activity?	Viability business activity?
2006	Digiwiz	Digital web agency	Independent	Viable
2006	DVDXC	DVD sharing network	Internal	Viable
2006	Ringtone network	Ringtone network	Internal	Viable
2006	Blog network	Blog network	Internal	Viable
2007	Monitor	Monitoring the influence of social media	Independent	Failed
2008	Tagger	Facilitating online music purchase by tagging or bookmarking music	Independent	Failed
2008	Talk	Social media marketing	Independent	Viable
2008	Tweety	Tweeting application for digital TV	Internal	Failed
2009	EasyNet	Easy internet marketing services	Independent	Viable
2010	Knife OS	Open sourcing of WCMS Knife	Internal, yet in the process of becoming independent	Viable
2010	Publisher	Digital magazine publishing	Independent	Viable
2011	iPad app	Application for iPad magazines	Internal	Failed
2012	Newton	Online KPI monitoring	Internal (Talk), yet became independent	Viable
2012	Adviz	Optimizing website usability	Independent	Viable
2013	Paradise	Network of independent companies active in the digital industry (including NetDesign, Star, Hello Hello, The Laboratory, Screen, Robot, RawData and Illustrat)	Independent	Some viable, some too early to tell

Table 3 Overview data collection sources

Data source	Type of data	Use in analysis
Archival data	*Industry-related documents:* Business press articles (n=14), industry reports from business analysts (e.g. Gartner) (n=10).	Familiarize with the industry context.
	Company-related documents: Venture websites (n=4), venture blogs (n=4), company presentations (n=30), trend reports (n=6).	Support the chronological reconstruction of the growth of the portfolio. Support and triangulate evidence from the interviews.
	Entrepreneur-related documents: Personal blog (n=1), presentations (n=19), interviews in press articles (n=4).	Developing an understanding of the entrepreneur's reasoning regarding specific business opportunities, business models and industry trends. Support and triangulate evidence from the interviews.
Interviews	*Preliminary interviews (early 2011)* with industry experts (n=7), to discuss industry evolution, industry trends and characteristics of viable business models in the digital industry.	Familiarize with the industry context.
	Interview round 1 (June-Aug 2011) with the entrepreneur (n=2) and his founding partner (n=1), to discuss the development and history of each venture and its business activities.	Chronological reconstruction of the growth of the portfolio. Developing an understanding of the entrepreneurial processes driving the formation of new ventures and the interdependencies between ventures.
	Interview round 2 (March-Sept 2012) with the entrepreneur (n=1) and business partners (n=2), to discuss the use and transfer of knowledge and capabilities across the portfolio and over time.	Identification and visual mapping of knowledge and capability flows across the portfolio. Compare and integrate interviewees' accounts, to improve our understanding of the entrepreneurial learning processes related to the use and transfer of knowledge and capabilities across the portfolio and over time.
	Interview round 3 (Aug-Sept 2013) with the entrepreneur (n=1), his founding partner (n=1), and business partners (n=2), to discuss the deployment of resources and capabilities across the portfolio, the entrepreneur's understanding of such deployment across the portfolio.	Develop an understanding of resource orchestration processes occurring across the portfolio and over time. Identification of the role of the entrepreneur in creating resource synergies across the portfolio. Compare and integrate interviewees' accounts, to improve our understanding of the entrepreneur's ability to orchestrate resources.

Initial desk research started in 2011, concentrating on developing understanding of the evolution of the web development industry and the identification of market players. To gain additional information, in particular on the Belgian web development industry, we interviewed seven industry experts who were business analysts (n = 2), leading entrepreneurs (n = 2), specialists working for larger concerns (n = 2) and a venture capitalist (n = 1). Interviews ranged from 30 to 70 minutes. These interviews pointed us to Digiwiz and its founding entrepreneur, who we did not know personally in advance.

The primary data collection method involved semi-structured interviews with the entrepreneur and his three business partners, conducted in three interview rounds between early 2011 and mid-2013. All interviews were conducted by at least two individuals, increasing confidence in the reliability of interpretation. The interviews lasted approximately 1 to 2.5 hours and were recorded and subsequently transcribed verbatim.

In the first interview round, mid–2011, we conducted a semi-structured interview with the entrepreneur, during which we asked for factual information, such as the composition of the entrepreneurial team, the development and history of the ventures in the entrepreneur's portfolio and each venture's business model and activity system in use. The same questions were presented to his founding partner during a semi-structured follow-up interview, allowing us to alleviate concerns of source and recall bias. This information was complemented with secondary data from company reports, blogs, financial accounting data, press articles, company presentations and websites of each venture. For instance, we triangulated factual information with a number of blogs by the entrepreneur about the development of his ventures. The Digiwiz company blog dates from 2003 and consists of approximately 1,200 blogposts, while the entrepreneur's personal blog dates from 2006 and counts 1,250 blogposts. Venture-related blogs, such as the Talk and Monitor blog, were also available from start-up and contain fewer blogposts (e.g. Talk, 2008, 60 posts). Further, the entrepreneur produced numerous writings (e.g. trend reports) which are archived chronologically on the internet, thus enabling triangulation.

Using this information, two researchers independently mapped the evolution of the business activities inside Digiwiz and the entrepreneur's other portfolio ventures. Having contrasted and discussed these two sets of chronological maps, we created a preliminary timeline of the development of the entrepreneur's portfolio of ventures which served as support for subsequent interviews. Finally, we conducted a follow-up interview with the entrepreneur to focus in more

detail on the formation of new ventures over time and the interdependencies between the different ventures. We used the timeline of the different business activities and ventures developed in the previous data collection stage as a backbone to the interview.

In the second interview round, early and mid–2012, we gathered more refined data on specific experiences described by the entrepreneur in previous interviews. This included experiences related to the set-up and management of new activities and ventures, and the genesis of certain organizing processes. Such data allowed us to infer how resources and capabilities related to venture set-up and growth were developed across the entrepreneur's portfolio. We first interviewed the entrepreneur. Subsequently, to triangulate the obtained data, two semi-structured interviews were held with business partners of the entrepreneur, i.e. the CEO of Talk and the product champion behind Newton. These face-to-face interviews focused on the entrepreneur's use and transfer of acquired knowledge and capabilities across ventures in his portfolio.

In the third interview round, mid–2013, we gathered fine-grained data on specific resource and capability orchestration processes across ventures that had emerged from the data. During interviews with the entrepreneur, his founding partner and the two business partners previously identified, we gained more insights on the deployment of resources and capabilities and the role of the entrepreneur as an orchestrator of such resources and capabilities. We also updated the status of the entrepreneur's portfolio and triangulated certain pieces of information at this point.

2.3.4. Data analysis

Moving back and forth in an iterative fashion between the qualitative data and relevant theoretical arguments, we gradually developed a data structure and translated these structured insights into a theoretical model (Locke, 2001). Using Nvivo to code the interview transcripts, the analysis was conducted in three major steps following the guidelines by Gioia *et al*. (2013).

Step 1: Creating categories and first-order codes. We identified statements regarding resource and capability development and diffusion across the portfolio of businesses via open coding (Locke, 2001). We followed Autio *et al*. (2011) and adopted a working definition of a *capability* as a combination or sequence of processes and its enabling resource commitments. We started by labeling these capabilities and resources (e.g. 'new project manager', 'search engine optimization skills', 'remuneration policy') and their orchestration within and across

ventures (e.g. 'aligning team structure with company size', 'reassigning a search engine optimization expert', 'copying recruitment tools'). Next, following multiple re-readings of data, we gradually combined the initial labels that were similar in essence, into preliminary categories. Whenever data did not fit well into a preliminary category, we reviewed the category. This enabled us to group the initial labels into first-order codes (e.g. 'aligning corporate structure and processes with growth', 'exchanging customer portfolios', 'diffusing working processes and tools').

In parallel, we started tracking new knowledge and capability development that resulted from the resource orchestration activities across ventures. In particular, we tracked new, enhanced, modified and repurposed pieces of knowledge and capabilities across the portfolio of ventures. We created visual maps[2] illustrating knowledge flows and capability diffusion processes (Miles & Huberman, 1984). These visualizations allowed us to detect and gain a better understanding of the knowledge flows and capability diffusion processes across the venture portfolio.

Step 2: Integrating first-order codes and creating second-order constructs. At this stage, we focused on depicting resource orchestration processes occurring across ventures, as opposed to the within-venture processes already identified in the literature (e.g. Sirmon *et al*., 2007). As such, using axial coding, we tentatively combined first-order codes into fewer, theoretically relevant second-order constructs related to resource orchestration across ventures (Strauss & Corbin, 1990, p.123). We engaged in systematic comparison of our emerging second-order constructs with case data and with existing constructs in the literature to assess fit and adjust the labels of these constructs accordingly (Gioia *et al*., 2013). We went back and forth between theory on resource orchestration to identify the differences and similarities between the processes we identified that occur *across* ventures (e.g. aligning, complementing, incubating) and the orchestration processes previously identified by Sirmon *et al*. (2007) *within* ventures (e.g. mobilizing, accumulating, coordinating). To avoid errors arising from halo effects, confirmatory biases and other interpretation biases (Strauss & Corbin, 1998), the third author acted as a critical reviewer and interrogator of the first two authors throughout the process to ensure the validity of the emerging second-order constructs. Our data structure in Figure 1 illustrates our first-order constructs, second-order constructs and aggregated theoretical dimensions. As such, it shows the process we followed when moving from raw case data to theoretically grounded concepts on resource orchestration.

[2] The visual maps depicting knowledge flows and capability diffusion are available on request.

Step 3: Building a grounded theoretical framework. Once the second-order constructs relating to the eight distinct resource orchestration subprocesses across ventures had emerged from the analysis, we searched for interrelationships among these constructs in an attempt to understand how they would fit together into a coherent framework (Pratt, Rockmann, & Kaufmann, 2006). For example, we observed that some processes were related to the development of capability configurations, while others were linked to the exploitation of such capability configurations. We returned to the literature on resource orchestration to compare our observations to theoretical dimensions that had previously been identified (e.g. Sirmon *et al*., 2007; Sirmon *et al*., 2011). As such, we searched for similarities with existing theory to relate the processes we identified to the more general resource orchestration constructs of structuring, bundling and leveraging (Sirmon *et al*., 2007). Building on this previous literature, we produced a grounded model of how resource orchestration processes unfold across ventures incorporating our understanding of the differences between resource orchestration processes *within* and *across* ventures. To increase the reliability of our interpretations, at multiple stages of the analysis we presented the emerging framework to the entrepreneur and his partners. The conceptual model in Figure 2 illustrates how we integrated our second-order constructs and their aggregated theoretical dimensions into the theoretically grounded framework that emerged from our analysis as elaborated below.

2.4. FINDINGS

As we explored the processes underlying resource orchestration and capability development *across* a portfolio of ventures, we identified eight resource orchestration subprocesses (*accessing, multiplying, redeploying, incubating, decoupling, aligning, complementing* and *pruning*) that are distinct, yet complementary, to the resource orchestration subprocesses (*acquiring, accumulating, divesting, stabilizing, enriching, pioneering, mobilizing, coordinating* and *deploying*) discussed in prior literature on value creation through resource management (Sirmon *et al*., 2007; Sirmon *et al*., 2011). Because of a lack of fit between these subprocesses and existing theoretical constructs on resource orchestration, we grouped them into three aggregate dimensions or general resource orchestration processes that are new to resource orchestration theory (*sharing, transforming* and *harmonizing*).

Figure 1 Data structure

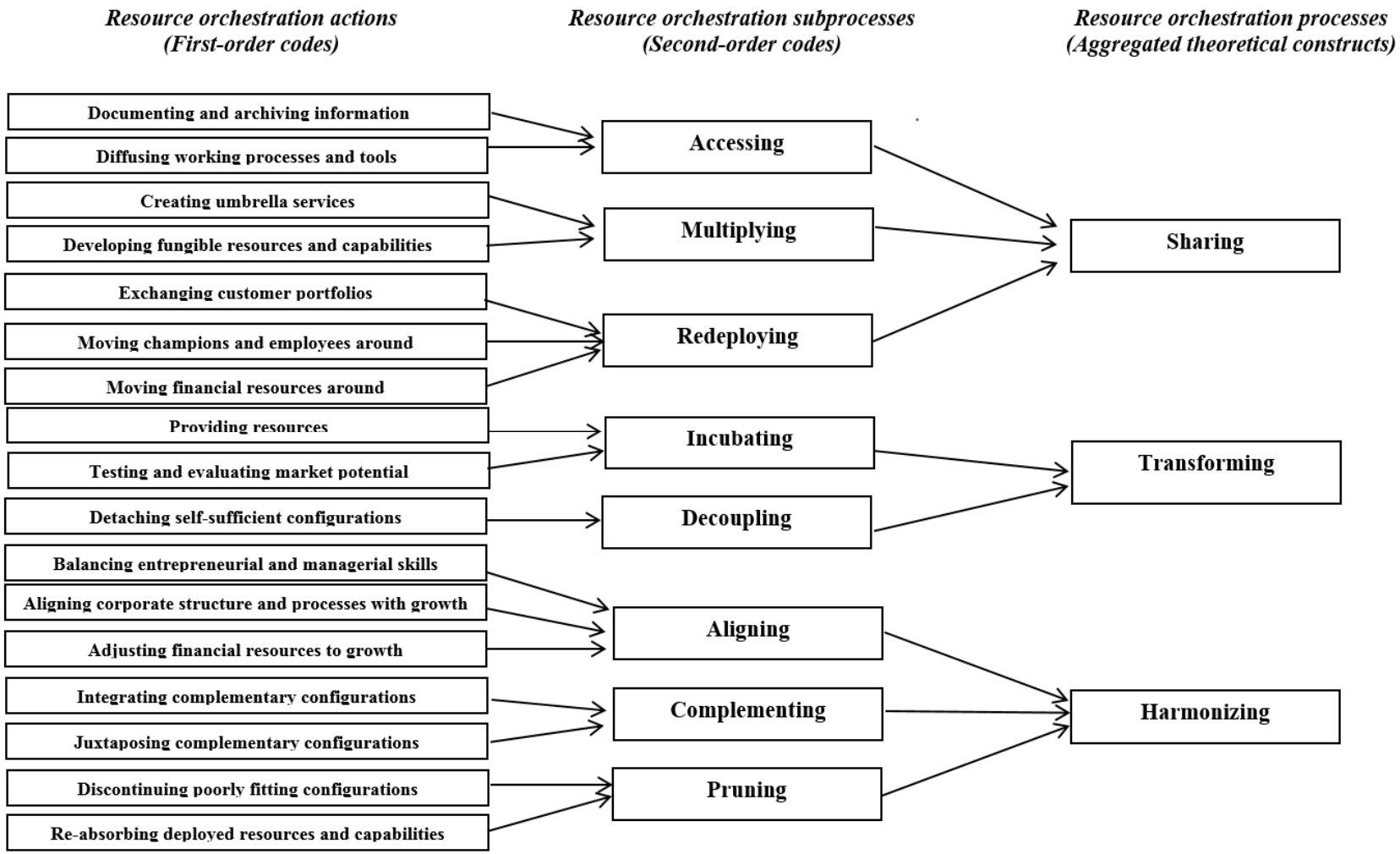


Table 4 Definitions resource orchestration processes

Resource orchestration (sub)processes in PORTFOLIO CONTEXT		**Resource orchestration (sub)processes in SINGLE-FIRM CONTEXT**	
SHARING	Refers to sharing resources and capabilities across the portfolio	STRUCTURING	Refers to the management of the resource and capability portfolio within a single firm**
Accessing	- The process of making resources and capabilities available across the portfolio	Acquiring	- The process of purchasing resources from strategic factor markets*
Multiplying	- The process of creating fungible resources and capabilities	Accumulating	- The process of developing resources internally within a single firm*
Redeploying	- The process of re-allocating a specific resource or capability from one venture to another in the portfolio	Divesting	- The process of shedding firm-controlled resources to the strategic factor markets*
TRANSFORMING	Refers to nurturing and converting self-sufficient resource and capability configurations into independent ventures	BUNDLING	Refers to combining resources and capabilities to construct or alter capabilities within a single firm**
Incubating	- The process of supporting and testing heterogeneous resources and capabilities from across the portfolio to explore opportunities in the market	Stabilizing	- The process of making minor incremental improvements to existing capabilities*
		Enriching	- The process of extending current capabilities, thereby moving beyond keeping skills up to date*
Decoupling	- The process of decoupling self-sufficient resource and capability configurations into independent ventures	Pioneering	- The process of creating new capabilities with which to address a firm's competitive context*
HARMONIZING	Refers to balancing specific resource and capability configurations across the portfolio	LEVERAGING	Refers to the application of resources and capabilities within a single firm to create value for customers and wealth for owners**
Aligning	- The process of gradually adjusting capability and resource configurations to nurture new venture growth, based on resources and capabilities from across the portfolio at that stage of development	Mobilizing	- The process of identifying the capabilities needed to support a capability configuration necessary to exploit an opportunity in the market*
		Coordinating	- The process of integrating identified capabilities into an effective yet efficient capability configuration*
Complementing	- The process of developing value-creating synergies across the portfolio using complementary capability configurations	Deploying	- The process of physically using a capability configuration to support a chosen leveraging strategy*
Pruning	- The process of disentangling poorly fitting resource and capability configurations, thereby recovering resources and capabilities across the portfolio		

* Sirmon *et al*., 2007
** Adapted from Sirmon *et al*., 2007

In addition to the novel resource orchestration processes that we identified across firms, we also observed all single-firm resource orchestration subprocesses previously identified by Sirmon *et al*. (2007), thus confirming extant theory presented in Sirmon *et al*.'s conceptualization of resource orchestration. However, we sought to focus on our core contribution, which is resource orchestration across firms within a portfolio. As such, in the next section, we concentrate on each of the eight across-portfolio resource orchestration subprocesses and the three new aggregate resource orchestration processes in which they can be organized. An overview of these processes, subprocesses and their definitions can be found in Table 4, alongside the processes occurring in a single firm. In what follows, we compare and contrast each across-portfolio process with the relevant single firm process at the end of each sub-section. Tables 5, 6 and 7 extensively focus on across-portfolio resource orchestration and illustrate how we moved from our raw data to our new theoretical constructs.

2.4.1. Sharing resources and capabilities

Our analysis showed that three of the across-portfolio subprocesses identified refer to *sharing* existing resources and capabilities across the portfolio. By sharing resources and capabilities, the entrepreneur brings about synergies across the portfolio of ventures when setting up new business activities. Specifically, the entrepreneur engages in *accessing*, *multiplying* and *redeploying* resources and capabilities across ventures. Representative examples of these subprocesses are illustrated in Table 5.

First, when sharing resources and capabilities, the entrepreneur engages in the subprocess of *accessing* a pool of existing resources and capabilities across the portfolio. This process occurs by documenting and archiving information with the intent to share such information across the portfolio of ventures. It also occurs through the diffusion of fungible working processes and tools. For instance, some working rules, performance and evaluation systems and inbound marketing strategies were developed with the intent to integrate these routines across the entire portfolio, as opposed to a single firm. As the entrepreneur states:

'We have developed an entire remuneration policy. It took 6 months to work it out in Digiwiz. We rolled it out in Talk in 6 weeks.'

Second, in order to be able to diffuse resources and capabilities across his portfolio, the entrepreneur engages in a subprocess of *multiplying,* i.e. creating fungible resources and capabilities. The entrepreneur develops resources or capabilities so that they can be accessed

by multiple ventures. As such, he develops a set of fungible resources or capabilities, thereby enhancing the potential for synergies across his portfolio of ventures.

We observe the subprocess of multiplying resources and capabilities in two ways. First, the entrepreneur creates an umbrella of support services. As such, different ventures in the entrepreneur's portfolio are able to share the same HR manager, payroll officer, accountants and office managers. The entrepreneur develops a flexible base of human resources consisting of employees who work for all companies in the portfolio at the same time. As each specialist brings in knowledge of a specific domain, these flexible human resources facilitate the transfer of practices across the portfolio of ventures and support capability development at the individual venture level. Second, by developing fungible resources and capabilities, the entrepreneur is able to reproduce and transfer resources and capabilities to make them accessible across the portfolio. For example, when the entrepreneur developed the performance and evaluation system, he developed it with the intent to reproduce it across ventures and he made sure it could be transferred from one venture to another.

To engage in the subprocess of multiplying, the entrepreneur learned to make sure that the resources and capabilities he wishes to diffuse across his portfolio can actually be repurposed from one venture to another. In some cases, the entrepreneur was not able to diffuse practices because he could not adequately multiply resources or capabilities. For instance, certain software tools, and thus technological capabilities, developed in one venture could not easily be reinterpreted or repurposed in other ventures, since each company in the portfolio has its own business focus. As a business partner mentions:

'Because the nature of the different parts [ventures] of the ecosystem is not that similar that we can just move any type of software tool from one to the other.'

Next, our data shows that when sharing the resource and capability set available across his portfolio, the entrepreneur engages in the subprocess of *redeploying* certain resources or capabilities across ventures depending on the specific needs of these ventures. In particular, our case reveals three types of resource orchestration actions through which redeployment takes place, i.e. exchanging customer portfolios, moving champions and employees around and moving financial resources around. For instance, to successfully start and manage ventures, the entrepreneur equips a venture with the right capabilities by moving specific human resources from one venture to another. As he developed an understanding of the importance of having a champion in each venture, the entrepreneur moved Rose, an employee in Digiwiz with the

necessary skills to set up structured processes, to Adviz in order to let her manage the company. By redeploying a human resource, the entrepreneur enables the development of the necessary management capabilities at the venture level in Adviz, as illustrated by the quote below:

'And that is also what is happening at Adviz. Rose, someone here at Digiwiz, has management capabilities. And I made sure to include her in the management team there [at Adviz]. […] That champion has to be in there. She is the one who is going to solve my concern regarding Mark and Elie's inability to delegate. [...] Okay, Rose, your job is to set up a structure and processes that are scalable and repeatable.'

Other representative examples of the entrepreneur's efforts to redeploy resources and capabilities across the portfolio are shown in Table 5. However, not every resource can be redeployed effectively. For instance, simply redeploying an employee looking for a new challenge to another venture can result in a mismatch between employee and venture. The entrepreneur experienced this problem as each portfolio company has its own distinct culture.

In sum, by *accessing*, *multiplying* and *redeploying* resources and capabilities across his portfolio the entrepreneur engages in the process of sharing resources and capabilities. These three across-portfolio subprocesses differ from the previously identified subprocesses of acquiring, accumulating and divesting resources which refer to a single firm's efforts to purchase or shed resources on the market or develop them internally when needed to exploit an opportunity, as compared in Table 3 (Garbuio, King, & Lovallo, 2011; Sirmon *et al*., 2007). Accessing, multiplying and redeploying represent subprocesses through which the entrepreneur aims to realize synergies across his portfolio; they allow him to make optimal use of the resources and capabilities in the portfolio by using them multiple times or by inserting them in those ventures where they can have the largest impact.

The subprocesses can be linked to both exploration and exploitation. While the subprocesses are clearly used to engage in exploitation, for instance by rolling out a remuneration process in the accessing subprocess or creating umbrella services to increase efficiency in a venture in the multiplying subprocess, they can also entail the orchestration of existing resources and capabilities to effectively explore new opportunities. For instance, the exchange of customer portfolios or existing technology from one venture to another in the redeploying subprocess can potentially aid a venture to move into a new market.

Table 5 Sharing resources and capabilities across ventures (second-order codes, first-order codes, definition and representative quotes)

ACCESSING	**Documenting & archiving information**	**The process of documenting and archiving information with the intent to share such information across the portfolio of ventures** *The things I learn unconsciously, by telling others about those things, whether verbally or in a blog or in a presentation, it forces me to shape it all, to make it explicit. If I would not do that, I would not repeat the same mistake, but I would not be able to share it with someone else in the network. By rendering it explicitly, you make it physical, transposable.* *Again, that is my ambition. To develop as many learnings from Digiwiz into blueprints for across the ventures.*
	Diffusing processes & tools	**The process of diffusing existing working processes and tools across the portfolio of ventures** *A simple example. Scrum methodology. Agile development. […] This is how they work at NetDesign and Newton.[…] I am now introducing this in Digiwiz. To make Digiwiz more agile.Again, that is my ambition. To develop as many learnings from Digiwiz into blueprints for across the ventures.* *We often organize knowledge sharing sessions across the ventures.*
MULTIPLYING	**Setting up umbrella services**	**The process of developing an umbrella of support services** *Each of these companies will have its own CEO in charge of the strategic direction. And as a support, we are going to set-up a service model to back up management in terms of HR services, administration, IT, funding.* *Eventually, we want to develop an ecosystem, consisting of independent units that each have their own specialization, supported by a holding or a portfolio company that provides the necessary resources. [A portfolio company] that can recycle certain resources in one venture and exchange them with another venture.*
	Developing fungible resources & capabilities	**The process of developing resources and capabilities with the potential to reproduce across ventures** *Here at Digiwiz, we invested a lot of time and effort in the development of work regulations and worked out a performance and evaluation system in detail. But we developed it with the idea that it should exceed, transcend Digiwiz. So we are now implementing it here [Adviz]. It has already been implemented here and here [in other companies]. So that time does not have to be invested again here [in other companies].* *I am currently translating this [the ability to offer strategic advice to customers] into a structured process, to implement across the other [ventures], so that it develops into a scalable and consistent story.*
REDEPLOYING	**Exchanging customer portfolios**	**The process of transferring a customer portfolio to enable the exploitation of the opportunities these customers represent** *It was the combination of vision and opportunity. It is always like that. Peter and Frank were starting up [EasyNet]. I said 'I have the feeling that we are moving up with Digiwiz, that I am losing some of my former [smaller] customers, which is a pity'. They said 'we explicitly want to target them'. Perfect. There were champions, there was a market, I wanted to do it and provide a part of the inflow.* *Robin wanted to get out of consultancy, without leaving his customers. So he basically transferred his customers to Talk.*
	Moving champions & employees around	**The process of re-allocating human resources and their inherent capabilities** *We are trying to gain advantages from our portfolio. If someone wants another challenge, there are other possibilities [in the portfolio]. Of course, it concerns employees that have added value, champions as you say. Those champions, we are aware of it, we take good care of them.* *It happens through collaborations. […] In the Paradise group, you have Jason, Sven and Bert, who are all flying goalies. They are not linked to one specific company, they are at a group level. For instance, Bert is someone who drops by on irregular basis, joins us [Talk], advices us for difficult projects, digital projects, especially in the pre-sales stage, in the pitch stage.*
	Moving financial resources around	**The process of re-allocating financial resources** *When Talk was going through something of a rough patch and they needed cash, we sent it through from Digiwiz. And now, now that things are going much better again, we pulled it out and it went back to Digiwiz.* *You can perfectly imagine a system in which you can shuffle around financial means, if one of them [ventures] is experiencing difficulties. I do not need to tell you that. It happens regularly.*

2.4.2. Transforming resources and capabilities

Two of the eight resource orchestration subprocesses, *incubating* and *decoupling*, refer to nurturing resource and capability configurations to prepare for the exploration of new market opportunities. As such, the entrepreneur engages in the process of *transforming* heterogeneous resources and capabilities from across the portfolio into independent, self-sufficient ventures. Representative examples of these subprocesses are illustrated in Table 6.

Our analysis shows that to explore new venture opportunities, first the entrepreneur engages in a process of supporting and testing configurations of heterogeneous resources and capabilities from across the portfolio, i.e. the subprocess of *incubating* a new venture. We observe multiple resource orchestration actions through which incubation occurs. For instance, after having selected a new business idea that emerged from within his ventures, the entrepreneur infuses the necessary knowledge and allocates the necessary resources and capabilities to support its transformation in a new venture. This enables testing of the new capability configuration to prove its potential to become a new venture by independently generating revenues. As such, the champion developing the new activity receives resources involving support processes and structures from the entrepreneur at the portfolio level. As illustrated by the quotes in Table 6, the new champion can fully focus on developing the core capabilities needed to launch the venture.

'He [the entrepreneur] also said 'I am looking for intrapreneurs, I have an idea, but I need people to execute it, I cannot work out all my ideas by myself, I look for people, I assemble them, I make sure they do not need to worry about some things in the beginning'. […] He makes sure that there is a place where during the first two years you do not need to think about which accountant you need, how much money you need, what material, an office you need to clean,… No, you are at headquarters for two years, where you can focus on the most important thing, that is how to move from an idea towards a business. And from a business towards a company.'

Second, after having allocated resources and capabilities to support a new venture, the entrepreneur finally evaluates the potential of the resource and capability configuration after a pre-set time period. When the entrepreneur feels he has found a profitable resource and capability configuration to exploit a new market opportunity, he *decouples* such a self-sufficient configuration from its supporting firm, i.e. its incubator. Subsequently, the entrepreneur invests additional resources so that the venture can independently develop its core capabilities to fully exploit the market. For example, after the entrepreneur had incubated Talk within Digiwiz, he decided to spin-out the activity as the culture and activities of the two were

blending into each other and hampered the development of Talk. After separating the two ventures, Talk started focusing even more on its core capability, i.e. the development of social media strategies, as the quote below illustrates:

'You felt that people from Talk started to engage in other things than social media, because of the interaction [with Digiwiz]. With the risk of losing their focus on the social media niche. […] After they moved, they rebuilt their own corporate culture and concentrated even more on social media.'

To summarize, by *incubating* and *decoupling* resources and capabilities the entrepreneur engages in the process of transforming resource and capability configurations into new ventures. As such, these processes can be linked to the exploration of new opportunities. We extend prior resource orchestration theory by showing that the subprocess of incubating represents a particular form of bundling resources and capabilities from across the portfolio to explore opportunities to form new capability configurations. In that respect, incubating complements the previously identified process of pioneering (Sirmon *et al*., 2007) a new capability within a single firm, as incubation allows a new venture to develop its core capability. However, whereas pioneering entails the development of a specific capability in a single firm context, incubating refers to the development of an entire configuration to tackle a market opportunity, using heterogeneous resources and capabilities from across the portfolio. Also, decoupling represents an essential part of incubating, although it is different from the divesting process identified by Sirmon *et al*. (2007) as the newly developed capability configuration remains part of the portfolio and ultimately has the potential to strengthen the competitive positioning of the overall portfolio.

2.4.3. Harmonizing resource and capability configurations

Lastly, we identified a resource orchestration process that helps to balance resource and capability configurations across the portfolio of ventures in order to create value for customers and owners, i.e. the process of *harmonizing* configurations across the portfolio. Through three specific subprocesses, *aligning*, *complementing* and *pruning*, the entrepreneur is able to design a value-creating portfolio of resource and capability configurations. Representative examples of these subprocesses are illustrated in Table 7.

Table 6 Transforming resources and capabilities across ventures (second-order codes, first-order codes, definition and representative quotes)

INCUBATING	**Providing resources**	**The process of providing the resources and capabilities needed to support the transformation of a business idea into a new venture** *When someone has an idea, it is in phase A, and he can work on it during his spare time. […] I help them strengthen the idea, develop a business plan… If they make it through the pitch, they are going to phase B. […] They also receive some resources, some money to produce a sort of proof of concept. And if that is successful, they go to a spin-out, their own company, with proper funding.* *In the start-up phase, [we offer new ventures] a building, where they can do their own thing. A space, does not need to be much, where they can do their own thing. Develop their own identity, letting it grow. Preferably not too far away, so that we can offer them advice based on our expertise.*
	Testing & evaluating market potential	**The process of testing and evaluating the market potential of new resource and capability configurations** *What I first do, is try and detect traction. Will there be a client who will pay for it? And if so, then I am going to invest sufficient resources. Is it an idea that will attract customers and is there a person who can run that company? Those two together, if I have that, then I am going to invest sufficient resources in order to set it up as a fully independent…* *Newton, I believe in it, but it must first prove itself as a business inside Talk, its incubator, then it can become independent and we can invest more money into it.*
DECOUPLING	**Decoupling self-sufficient configurations**	**The process of decoupling self-sufficient resource and capability configurations into independent ventures** *[X] started in Talk, developed Newton there. First after his normal hours. Then, he developed a first prototype, with limited budget and a few days' time per week. He found his first customers, which made us realize 'this will get market response'. We invested 200 000€ and Newton Analytics was set-up as a separate company.* *I have tried that internally [in Digiwiz] with the iPad app. But I am going to decouple it. [] The reason why it does not fit, is because of opposite processes. The iPad app is a product, Digiwiz is a service. Different price setting, different level of maintenance,…*

Table 7 Harmonizing resources and capabilities across ventures (second-order codes, first-order codes, definition and representative quotes)

ALIGNING	**Balancing entrepreneurial & managerial skills**	**The process of infusing the necessary managerial capabilities as a venture grows beyond the start-up phase** *There comes a time when there needs to be someone who can manage… In the sense of bringing stability and focus. Instead of constant change. And that is when I leave.* *Last year, we appointed Linda there [Talk] as a managing director. While Sophia is very structured and people-oriented, Linda is very performance- and customer-centred. And since then it is moving forward again. I have also seen this in other companies. NetDesign, same path. Valentina, the creative director, lifted the company to a certain height and then it was over. And then Tom joined, who is more of a managing partner, and it started to move forward again.*
	Aligning structure and growth	**The process of altering corporate structures and processes to align with venture growth phases** *Then you notice that certain processes are linked to the size and evolution of a company. And you cannot go any faster than that.*

	Adjusting financial resources & growth	**The process of infusing the necessary financial resources to align with venture growth phases** *Bart said 'if you need money, then we do it, then we put more into it, it is no problem, just step on the gas now', because he saw that it worked. More than he had expected. It [Newton] was very much on track.* *Based on the results and a comparison with the original business plan, we said 'we will allocate this amount of additional resources'. And we developed a new business plan [for Newton] in which we took that into account. A good decision, because now we see clear changes in terms of results and KPI achievement.*
COMPLEMENTING	**Integrating complementary configurations**	**The process of integrating complementary capability configurations from across the portfolio on temporary basis to explore and exploit complex market opportunities** *Leads and prospects are shared with each other. And very quickly the reflex develops you need that, okay, I am going to make this and then it is up to the other ventures to develop the remaining requests.* *We [Digiwiz] often got the question 'you built the site, can you bring in visitors now'. […] In terms of SEO, we were technically very strong, but all the rest, like copywriting, link building, analytics, we did not do. However, we noticed that the market demanded an integrated approach. It used to be possible to work with a webbuilder and an SEO company. But these days, there are so many expertises, that a customer cannot coordinate it all by himself. There was an increasing demand for a one-stop.*
	Juxtaposing complementary configurations	**The process of juxtaposing complementary capability configurations across the portfolio to explore and exploit multiple market opportunities simultaneously** *Different companies that grow separately offer more shareholder value in total […]. At first, Talk was being absorbed in Digiwiz. And then the question popped up 'should it be absorbed'. And you start to do the math, taking into account EBITDA and real shareholder value. And you see that value would be destroyed.* *An ecosystem has its advantages, because I can make my army as large as I want. Hermès is a customer who prefers to work with unknown artists who lives in a basement but create incredibly artistic things… I have that. Belgacom does not want the unknown artist, they need 75 people with 5 managers… I can do that as well.*
PRUNING	**Discontinuing configurations**	**The process of dissolving poorly fitting resource and capability configurations** *DVDXC was only recently shut down… In my mind, discontinuing it means 'ok, I am not going to do this anymore'. If you would have asked me earlier… I would have said 'maybe it is too soon, maybe I can still do something with it'. While now I say 'no'. What has changed, is… I know that next month something else will come along.* *Too little time… But even if we had invested enough time, even then… Bad management, no clear goals, no transparent arrangements,… We made the calculations on a napkin in a restaurant, 'hiring one mathematician to develop the algorithms will cost us this amount, so let's start with this amount'. […] It [Monitor] ended in failure.*
	Re-absorbing	**The process of re-absorbing resources and capabilities from failed ventures back into the portfolio** *I always try to recuperate those things [failed business ideas] as positioning, as marketing. To show 'we are doing innovative things'.* *Monitor, we took out the remaining money. And emptied the firm. […] The technology, it is still somewhere on a CD.*

First, the entrepreneur engages in the subprocess of *aligning*, i.e. adjusting configurations using the resources and capabilities available from elsewhere in his portfolio according to the needs of particular growing ventures at different stages of their development in line with his experience of what other ventures required at that stage. As some ventures in the portfolio are further ahead in their life cycle, younger firms benefit from the processes and capabilities that have been built previously in other ventures. As such, the entrepreneur creates synergies and facilitates the transfer of knowledge and practices in a timely manner.

In particular, our fine-grained analysis reveals three types of resource orchestration actions through which *aligning* takes place, i.e. 1) balancing entrepreneurial and managerial capabilities, 2) aligning corporate structures and processes with growth and 3) adjusting financial resources to growth. As such, aligning is linked to the entrepreneur's attempts to exploit ventures in an efficient manner. An example of aligning processes with growth relates to the need for more sophisticated HR processes as a venture grows. Based on his experience with other ventures, the entrepreneur understands in what growth stage of a new venture he can transfer and implement systems such as remuneration systems or project management systems, as a business partner states:

'That remuneration policy. It is a nice example of what is not possible in Newton, but what is possible in Talk. And I am now going to see whether I can also implement it in NetDesign and Star, who employ 10 people. But in Illustrat there are only 3 people, there is no point. As they grow, there will be a need to use it.'

The *aligning* process extends current theory on resource orchestration by showing how a portfolio entrepreneur can realize synergies across the portfolio by readjusting the capability configurations within a specific venture in line with his experience of the configurations available in ventures ahead in the growth curve elsewhere in the portfolio. As such, growing ventures can benefit from being aligned with the resources and capabilities appropriate for their stage of development possessed by more mature ventures in the portfolio when they were at the same stage of development.

Second, our data reveals that as the entrepreneur harmonizes configurations of resources and capabilities across the portfolio to explore and exploit market opportunities, he engages in the subprocess of *complementing*. The exploitation of such complementarities holds more value than the mere sum of the exploitation of the individual configurations, i.e. the individual ventures. As such, the subprocess of complementing entails the exploitation of value-creating

synergies across the portfolio using complementary capability configurations. In fact, in some instances such an exploitation of synergies allows for the exploration of new opportunities.

Our evidence indicates that the subprocess of complementing resource and capability configurations is especially important with regards to the complexity and sort of market opportunities that can be handled by the portfolio of ventures. Specifically, we observe two types of resource orchestration actions through which complementing occurs.

On the one hand, the entrepreneur integrates complementary capability configurations from across the portfolio on a temporary basis to explore and exploit complex market opportunities. To pursue such complex projects, the entrepreneur's central liaison position in the portfolio is crucial. For instance, to meet the high demands of an important customer of Digiwiz and tackle a challenging project, the entrepreneur developed a complex offering by leveraging different capability configurations from across his portfolio, including the resource and capability configurations of Digiwiz, Newton, Talk and the Paradise group. As a result, Digiwiz was able to deliver a broader offer beyond its in-house capabilities, thus delivering greater value for the customer and reaping the benefits of doing so. As a business partner states:

'We are currently developing a strategy for an important customer in the financial industry, which actually consists of a set of deliverables that require more than what Digiwiz or Newton or Talk do. [...] But there are people in the Paradise group that have that experience. We can leverage the broadening of the offer directly to a specific project for a specific customer, under the supervision of Digiwiz.'

On the other hand, in terms of the sort of projects that can be tackled by the different ventures, our case shows that although integrating configurations on a project basis has its benefits, adopting a long term perspective the juxtaposition of complementary capability configurations across the portfolio also leads to value creation. Doing so allows the entrepreneur to explore and exploit more and different market opportunities simultaneously. For example, Digiwiz offers social media services as part of an integrated package of online marketing services, while Talk offers specialized social media services without any additions. Consequently, by keeping these two capability configurations apart, the ventures are able to tackle different customer segments using their own value proposition. Exploiting these configurations through multiple ventures, the entrepreneur is able to address additional parts of the market, thus engaging in exploration, as the quote below illustrates:

'And that is how you reach two customer segments. Because that is always the question. Digiwiz versus Talk. Digiwiz also does social media. But we target a different kind of customer. Digiwiz looks for a customer who wants to go broad and integrated and work with one partner.

Talk customers are looking for niche players. Maybe that is also the answer to the question on value creation.'

Additionally, by juxtaposing different capability configurations within different ventures, the entrepreneur creates agile organizations that have the potential to quickly adjust to new market conditions and focus in order to strengthen their competitive advantage.

Whereas the previously identified subprocess of coordinating resources entails the integration of resources and capabilities to develop a value-creating capability configuration within a single firm (Sirmon *et al*., 2007), complementing represents a distinctive process to explore and exploit resources and capabilities across a single firm's boundaries. Complementing consists of leveraging multiple configurations simultaneously to create value across the portfolio through synergies. It allows the entrepreneur to effectively and flexibly pursue an entrepreneurial strategy by responding to multiple market opportunities using the same resources and capability configurations available to him.

Third, our case data reveals that an important element of the entrepreneur's efforts to harmonize configurations of resources and capabilities across the portfolio consists of *pruning* resources and capabilities. Such a pruning subprocess consists of disentangling poorly fitting resource and capability configurations, with the aim to recover resources and capabilities across the portfolio. The entrepreneur engages in two specific resource orchestration actions. First, when a specific resource and capability configuration displays a lack of fit, the entrepreneur can decide to discontinue the venture, as was the case with Monitor and Tagger. Based on the poor performance of each of these ventures, the entrepreneur decided to no longer invest any resources of capabilities, but instead dissolved the ventures. Once discontinued, specific resources and capabilities (technology, human resources, financial resources,…) from a failed venture can be reabsorbed into the portfolio, with the aim of making use of them elsewhere, as the quote below reflects.

'*With Tagger it was just the same. A bit more complex because there were debts involved […]. The technology is also on a CD. Well, something better than that. And now we are looking around, keeping our eyes open to see whether we can do something with it.'*

Important to note is that whereas the previously identified subprocess of divesting resources and capabilities entails shedding resources and capabilities to the strategic markets (Sirmon *et al*., 2007), pruning also includes a further distinctive subprocess that occurs across the portfolio. This additional subprocess consists of releasing capabilities and resources tied up in a venture, back into the portfolio of firms, with the intent to reuse them and create value across

the portfolio. As such, whereas the divesting aspect of pruning consists of the irreversible liquidation of a resource or capability from the firm, and hence the portfolio, the second aspect of pruning refers to the extraction of resources and capabilities from failed ventures with the aim of recuperating them as much as possible elsewhere in the portfolio.

The theoretical model presented in Figure 2 summarizes our findings. Overall, our case suggests that resource orchestration processes across a portfolio of ventures help to create synergies when exploring and exploiting new opportunities.

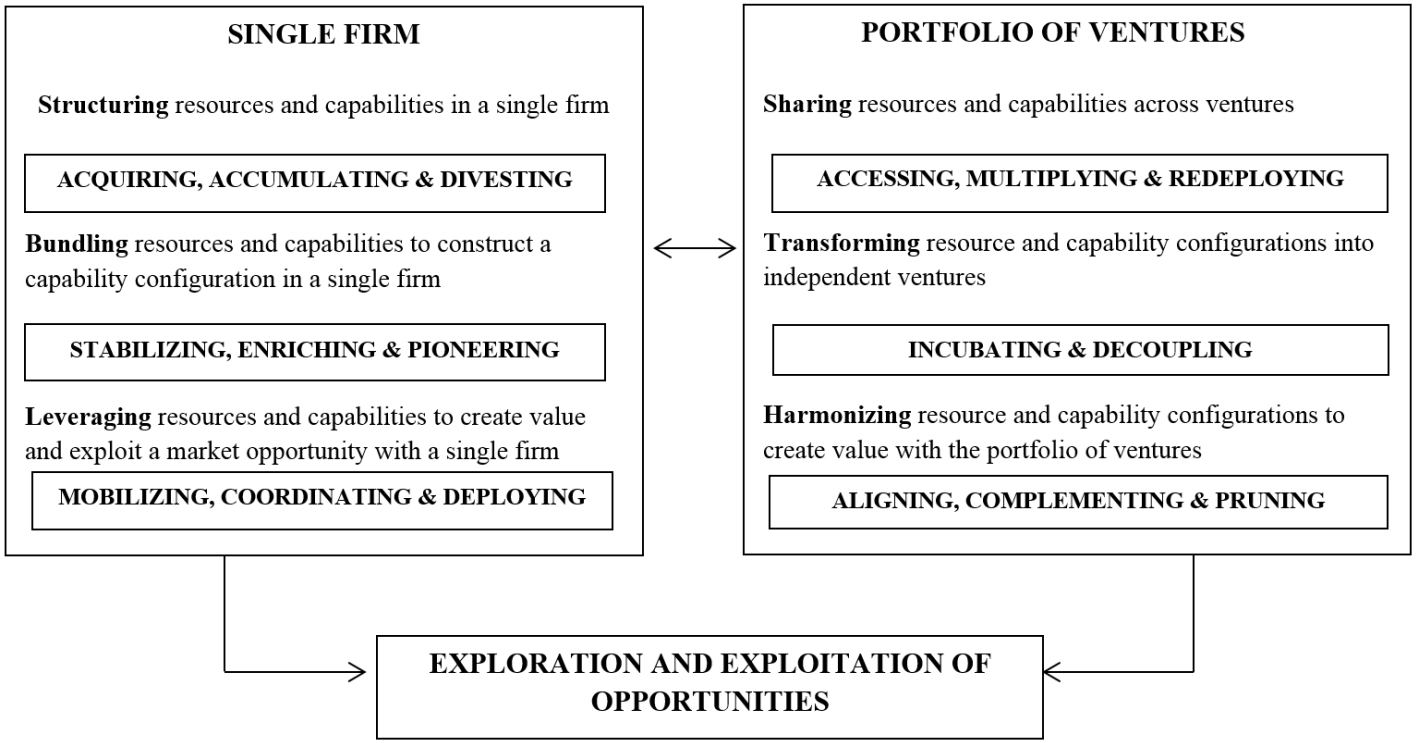
2.5. DISCUSSION AND CONCLUSION

We sought to extend previous research on enduring entrepreneurship by examining specific resource orchestration processes that help portfolio entrepreneurs to realize synergies across a portfolio of businesses when exploring and exploiting new opportunities. To do so, we explored a longitudinal single case of a portfolio entrepreneur. In answering our research question, we identified eight specific resource orchestration subprocesses across ventures (*accessing, multiplying, redeploying, incubating, decoupling, aligning, pruning* and *complementing*) that enable the portfolio entrepreneur to more effectively explore and exploit new venture opportunities in his portfolio of ventures. These subprocesses were grouped into three aggregate theoretical constructs namely *sharing, transforming* and *harmonizing*, which occur across the portfolio.

2.5.1. Theoretical implications

Our research contributes to theory in three ways. First, by building theory on how resource orchestration operates across a portfolio of ventures we add to understanding of the process of enduring entrepreneurship. The resource orchestration processes we have identified provide new insights that enduring entrepreneurship requires the continuing generation of entrepreneurial opportunities to be complemented by the development of synergies across the portfolio of ventures for those new opportunities to be explored and exploited. Our research shows that across-portfolio processes are linked to both the exploration and the exploitation of opportunities in different ways. The subprocesses within the *sharing* process can facilitate both the exploration and exploitation of opportunities. In contrast, the subprocesses within the

Figure 2 A theoretical model of resource orchestration across a portfolio of ventures



transforming process are solely linked to the exploration of opportunities. In turn, our case indicates that within the *harmonizing* process the subprocess of aligning is linked to the efficient exploitation of ventures, while complementing resource and capability configurations allows for both exploration and exploitation.

Second, we contribute to theory on resource orchestration by responding to the general call by Sirmon *et al*. (2011) for more empirical research on orchestrating a resource portfolio. Prior research has not explored whether resource orchestration theory can simply be extended to an across firms/portfolio context. In other words, there seems a need to explore boundary conditions of existing resource orchestration theory. Our findings suggest that simply extending existing resource orchestration theory to across firms/portfolio entrepreneurship contexts would miss important distinctive mechanisms in the resource orchestration process. As such, we extend theory beyond resource orchestration *within* firms by identifying eight subprocesses that we group into three aggregate resource orchestration processes new to resource orchestration theory (*sharing*, *transforming* and *harmonizing)* that occur *across* firms and which lead to the development of synergies among the existing resources and capabilities available in an entire venture portfolio. These synergies are important in sustaining enduring entrepreneurship because the new markets that the portfolio entrepreneur in our case is entering are characterized by uncertainty. He attempts to address this uncertainty in the new venture creation process more efficiently by drawing on the resources and capabilities from his previous ventures.

Third, we respond to the recent call of Autio *et al*. (2011) to look at the role of individuals and the imprints they may leave in firms and how these, in turn, affect capability emergence. Specifically, our results highlight the central role of the portfolio entrepreneur in diffusing resources and capabilities across a portfolio of ventures. As a portfolio entrepreneur's ability to steer resource orchestration evolves, s/he may develop an ability to identify, create and facilitate the diffusion of knowledge and capabilities which can be regarded as a form of meta-learning or dynamic capability (Lei, Hitt, & Bettis, 1996). S/he learns how to recombine and reconfigure resources and routines in new and existing ventures to support enduring entrepreneurship through adjusting to new developments in the industry, which might be especially valuable to survive and grow in a dynamic environment (Zahra, Sapienza, & Davidsson, 2006). The ability to steer resource orchestration processes across ventures may, therefore, be viewed as a critical boundary condition to explain the successful exploitation of

a portfolio of ventures and hence might be an important factor in explaining organizational outcomes (Wales *et al*., 2013).

Our findings regarding the distinctive research orchestration processes across a portfolio of ventures have implications for research in other organizational contexts involving coordination across activities. First, further research might usefully explore the nature of sharing, transforming and harmonizing processes across strategic partnerships and alliances, as well as in relation to the integration of mergers and acquisitions. Similarly, resource orchestration may involve coordination across different stakeholders in the value chain. To what extent does the nature of these processes differ across these contexts? How do these resource orchestration processes evolve between strategic partners that engage in repeated working together? How do they differ between firms that engage in repeated acquisition activity compared to those that do not? Such research might also explore whether additional resource orchestration processes can be identified as being specific to these other contexts. While we have focused on the evolving role of the portfolio entrepreneur in steering the resource orchestration process, further research might usefully explore how this coordination operates between the strategic partners in the context of alliances particularly where there may be differences between the relative power and knowledge of the partners. To what extent are these complementary or conflictual?

Second, we have attempted to tie the resource orchestration subprocesses we identify to extant strategic entrepreneurship theory on exploration and exploitation. While our findings hint towards specific relationships between specific subprocesses and either exploration, exploitation or both concepts, they also raise interesting questions. To what extent do such relationships exist in other types of portfolios, such as portfolios of VC's or multidivisional firms? Can a fine-grained analysis of these relationships reveal clear classifications involving subprocesses, exploration and exploitation of market opportunities? What are the boundary conditions related to the presence of such relations and what are the performance implications?

2.5.2. Opportunities for future research

Our study has a number of limitations that offer opportunities for further research. First, because our research setting is a revelatory case, our conclusions must be tentative and might not be generalizable to other settings. We have attempted to create 'local' knowledge that provides fine-grained, contextualized and processual accounts (Steyaert, 1997). The resulting

model represents various intermediary conceptualizing steps between raw case data and theory, which can lead to further understanding of the researched phenomenon (Eisenhardt & Graebner, 2007). Our intention was to provide a preliminary map of resource orchestration in the context of portfolio entrepreneurship. Our data, while generating insights on how to move theory forward, did not allow us to identify the optimal size and the optimal scope of a portfolio of ventures. These issues provide fertile ground for further work on resource orchestration across ventures.

Second, in seeking to understand the development and diffusion of knowledge and capabilities across a portfolio of ventures, our research did not overly focus on outcomes. Further research is needed to empirically determine and quantify the economic benefits of resource orchestration across firms in dynamic environments. For example, our data hinted at the possibility that portfolio entrepreneurs might be especially effective in leveraging organizing processes that facilitate and support growing ventures. Also, a portfolio of ventures might under certain circumstances offer advantages as compared to more traditional organizational forms. Such advantages could arise from the increased agility of individual ventures. However, when leveraging resources and capabilities across ventures, there might be more uncertainty regarding resource fit which might lead to failed orchestrations, and further research is needed to examine the drivers of successful versus unsuccessful orchestrations.

Third, we have focused on resource orchestration in the context of portfolio entrepreneurship. A key question that arises is the extent to which our insights apply to larger business groups. Whereas the addition of new ventures in the context of portfolio entrepreneurship appears to be mainly the result of an entrepreneurial process (Rosa, 1998), business group formation in large multinational companies has predominantly been explained by agency theory in which managers pursue their own objectives at the expense of shareholders. Entrepreneurial firms present two main differences from managerial firms: ownership concentration and the direct involvement of the entrepreneur in the effective control of the firm (a company or a group) (Iacobucci & Rosa, 2005). As a result, lack of colocation between decision makers and owners of information in large business groups can mean there is no comprehensive view of the orchestration process across businesses. Given the differences between business groups and portfolio entrepreneurship, future research might fruitfully examine how resource orchestration actions supporting enduring entrepreneurship might be different. Additionally, future research could investigate which resource orchestration actions help to support different types of corporate level strategies that seek different type of synergies

Finally, this study contributes to practice by improving entrepreneurs' understanding of the relevance of a portfolio of firms to continuously explore and exploit new business opportunities. In particular, our results point entrepreneurs towards the value of a portfolio for learning how to efficiently and successfully manage growing ventures in order to support enduring entrepreneurship. We hope that our analysis has laid the foundations to stimulate a further theoretical and empirical research agenda in this crucial aspect of entrepreneurship.

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CHAPTER 3

FRAMING STRATEGIC CHANGE FOLLOWING DISRUPTION

ABSTRACT

We examine the evolutionary process of decision-makers' framing of strategic change to understand its contribution to the development of cognitive inertia. Cognitive inertia refers to decision-makers' incapacity to timely challenge existing cognitive understandings in a context of disruptive change, resulting in a slower pace or lack of adaptation of those understandings and, ultimately, strategic inertia. Managerial cognition can be understood as a dynamic process of meaning construction, whereby meaning is created via framing practices. Adopting a grounded, interpretative case-study approach, we examine the framing practices of two media groups' decision-makers as they frame the implications of digitization, a disruptive technological change, and develop strategic responses. We identify alternative framing paths and define the evolutionary process of framing. As such, we extend theory on the impact of managerial cognition on incumbent inertia in the context of disruptive technological change by unpacking the framing processes that relate to strategic inertia.

Key words: Change, Cognition, Framing, Inertia, Strategy

3.1. INTRODUCTION

Recent studies within the field of strategic management examine the impact of managerial cognition on incumbents' strategic responses to disruptive change (Benner & Tripsas, 2012; Eggers & Kaplan, 2009; Kaplan, 2011a; Marcel, Barr, & Duhaime, 2011; Nadkarni & Barr, 2008; Tripsas & Gavetti, 2000). While certain industry incumbents are able to adequately respond to disruptive changes, many are subject to strong inertial forces (Bower & Christensen, 1995; Christensen, 1997; Gilbert, 2005; Tripsas & Gavetti, 2000). Existing theory on incumbent inertia, or incumbents' inability to enact strategic change when threatened with disruptive external change, acknowledges that the cognitive understanding of changes represents an influential element slowing down or impeding the ability of incumbents' decision makers to act or react (Porac, Thomas, & Baden-Fuller, 1989, 2011). Although cognition is a dynamic concept and therefore, as cognition evolves, inertia ought to be overcome and disruptive change ought to be cognitively absorbed, the pace at which incumbents' cognitive frames evolve differs. Hence, the concept of cognitive inertia refers to decision-makers' incapacity to timely challenge existing cognitive frames in a context of disruptive change, resulting in a slower pace or even lack of adaptation of those frames and, ultimately, strategic inertia.

Due to cognitive inertia, certain incumbents may become trapped in their cognitive understanding of the competitive environment, resulting in a loss of competitive advantage (Porac et al., 1989, 2011). Theory regarding the microfoundations of cognitive frames and their evolutionary development ought to prove vital to explain such differences in the development of cognitive inertia. However, literature on cognition and strategy lacks insights into the actual processes by which decision-makers' cognitive understanding of change is in fact constructed or adapted over time (Cornelissen, Holt, & Zundel, 2011; Kaplan, 2008b).

Therefore, the aim of this paper is to better understand the dynamic process underlying the longitudinal development of cognitive inertia in the context of disruptive technological change. A recent stream of research considers cognition to be a dynamic process of meaning construction, whereby meaning is created via the use of framing practices (e.g. Eggers & Kaplan, 2013; Kaplan, 2008a, 2011a). Framing practices refer to decision-makers' attempts through language to engage in meaning construction and frame courses of actions related to the change at hand (Cornelissen & Werner, 2014). Therefore, to understand the gradual

development of cognitive inertia, we examine decision-makers' framing practices and their continuous evolution in response to disruptive change. As such, our study tackles the need for research that focuses on the micro-level framing practices that constitute the building blocks of cognitive inertia. The study of framing practices as an outwardly oriented articulation of decision-makers' understanding of a context and the evolution of such practices, ought to shed light on the evolutionary development of (new) cognitive frames and, hence, the differences in responses to disruptive change.

Thus, we study the evolutionary process of framing and how it contributes to cognitive inertia. Specifically, we address the following research question: *What are the framing practices that lead firms to inertia in response to disruptive change and how do these practices evolve over time?*

To investigate the framing practices incumbents employ as they engage in meaning construction and attempt to discursively grasp the change in their environment, we studied the framing practices of two contrasting incumbent media groups in the Belgian newspaper industry. To trace the microfoundations and evolutionary development of cognitive inertia, we opted for a longitudinal content analysis study of the evolving framing efforts of these incumbents' decision-makers. The study spans a 15-year period starting after the Internet bubble in 2000, during which the Belgian incumbent media groups were confronted by the move from printed newspapers towards digital news offerings. This evolution stirred experimentation and strategic change within the industry, thereby instigating the development of new cognitive frames to understand the changing industry.

Focusing on incumbents' micro-level framing practices, we unpack the evolutionary process of decision-makers' framing and its role regarding the potential articulation of new frames. Framing practices define what is at stake and thus are potential means of generating cognitive inertia. We developed a typology of framing practices and mapped the sequential interrelations between different framing practices, thus tracking the longitudinal evolution of these practices in the face of disruptive technological change. As such, we identified alternative framing paths characterizing the evolutionary process of framing. Such evolutionary process of framing ultimately points to the cognitive development of an incumbent's absorptive capacity with regards to new technologies.

Ultimately, our focus on framing as an ongoing process of meaning construction engendered theoretical insights about the nature and the dynamics of the framing efforts in which

incumbents' decision makers engage when confronted with disruptive change. Consequently, our primary contribution consists of extending existing strategy theory on strategic inertia by unpacking the evolutionary process of framing underlying cognitive inertia in the context of disruptive change. As such, this study explains how incumbents frame strategic change following disruption and how such framing changes over time. By relating specific types of framing practices to cognitive inertia, we offer insights into how micro-level practices influence strategy. Second, by emphasizing the discursive framing practices employed by decision-makers in a context of disruptive industry change, we contribute to a growing body of studies in strategic management research which focuses on the role of language as a vital strategic instrument in strategic decision-making processes (i.e. following the linguistic turn in social sciences) (Balogun, Jacobs, Jarzabkowski, Mantere, & Vaara, 2014; Kaplan, 2008b, 2011b; Vaara, Kleyman, & Seristo, 2004; Vaara & Tienari, 2008; Vaara & Whittington, 2012). Specifically, we adopt a discursive approach to study decision-makers' evolving framing of strategic change following disruption. Finally, by exploring micro-level framing practices and the potential articulation of new frames in relation with cognitive inertia, we respond to a recent call in strategic management literature for more research on the microfoundations of cognitive frames (Kaplan, 2011a). Our examination of these microfoundations sheds much needed light on the micro-level cognitive dynamics underlying incumbents' new capability development and absorptive capacity in the face of strategic change.

3.2. THEORETICAL BACKGROUND

3.2.1. Cognition as a dynamic concept

In the field of strategic management, research on strategic decision-making has adopted two perspectives: the economics school of thought views decision-makers as rational actors who make rational choices based on economic incentives, while a complementary view has focused on the role of cognition in strategic decision-making (see review by Kaplan, 2011a). Building on Cyert and March's behavioral theory of the firm, the latter perspective presents a strategic decision-centered view of organizations that includes the notion of bounded rationality as an underlying central concept (Cyert & March, 1963; Gavetti, Levinthal, & Ocasio, 2007), whereby cognition defines strategic decision-making (Porac et al., 1989). Decision-makers subjectively interpret their competitive environment and then act upon these interpretations

(Weick, 1979). As such, strategic decisions are shaped by decision-makers' interpretations, which ultimately results in specific strategic decisions and outcomes (Daft & Weick, 1984).

Recently, a renewed interest emerged in the role of decision-makers' cognition in shaping strategic outcomes (Kaplan, 2011a; Porac et al., 2011), especially in research on incumbents' (in)ability to respond to disruptive changes in their competitive environment. A series of recent studies have examined the impact of cognition on strategic decisions to explain differences in organizations' responses to change (Eggers & Kaplan, 2009, 2013; Kaplan, 2008a; Nadkarni & Barr, 2008; Tripsas & Gavetti, 2000). Managerial cognition scholars argue that in competitive environments characterized by disruptive change where individuals attempt to interpret novel and/or ambiguous situations that cannot easily be interpreted using existing cognitive frames, available cognitive frames are adapted and new frames are developed (Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005). As such, incumbents' managerial cognition is not a static but a dynamic concept (Kaplan, 2011a).

Early work on managerial and organizational cognition conceptualizes inertia as an inherent element of cognitive transitions in contexts of change (e.g., Isabella, 1990; Meyer, Brooks, & Goes, 1990). Cognitive inertia can impede decision-makers to consider truly different alternatives to a current situation, alternative viewpoints, or innovative solutions to a problem. Hence, cognitive inertia refers to the tendency of decision-makers to develop strategic responses to change that are congruent with existing cognitive frames, while the development and use of new cognitive frames to tackle disruptive change are deemed more challenging. Thus, the cognitive frames which served decision-makers well in the past, and might still be appropriate for some parts of the business, become 'core rigidities' or inappropriate sets of knowledge in the changing environment (Leonard-Barton, 1992). The continuous employment of existing cognitive frames creates a problematic gap between the cognitive understanding of decision-makers and the requirements of the changing environment, which ultimately leads to difficulties in the design of new capabilities or business models. Building on Leonard-Barton's (1992) work on core rigidities, we conceptualize cognitive inertia as decision-makers' reluctance, whether conscious or not, to challenge accepted cognitive models when dealing with change.

3.2.2. Framing strategic change following disruption

Decision-makers' attempts to grasp the importance and implications of disruptive change are steered by two elements. First, they are directed by decision-makers' cognitive frames, the available knowledge structures that direct and guide individuals' information processing (e.g. Benner & Tripsas, 2012; Walsh, 1995; Weick, 1995). Second, they are guided by decision makers' framing practices, the attempts through language to engage in meaning construction and frame courses of actions related to the change at hand (Cornelissen & Werner, 2014). As Cornelissen and Werner (2014) clearly state, cognitive frames and framing practices are separate yet reciprocally and recursively interconnected concepts that contribute to the construction of meaning in context. Cognition and language are considered recursive in the sense that language, and thus framing practices, makes active use of existing cognitive frames, while new cognitive frames develop through extensions and combinations made in language. However, despite their interconnectedness, strategy scholars have largely focused on the study of cognitive frames (Kaplan, 2011a), while a smaller body of research emphasizes the role of framing practices (e.g. Cornelissen et al., 2011; Kaplan, 2008b).

As Fiss and Hirsch (2005, p. 31) clearly explain: "… framing emphasizes the external, strategic process of creating specific meaning in line with political interests" and focuses on one aspect of the meaning-creation process. In contrast, sensemaking processes focus on another aspect of meaning creation, namely the gradual development of cognitive understanding in itself, regardless of consequent strategic framing of change (Fiss & Hirsch, 2005). Still, cognition and framing are recursive because framing practices build on existing cognitive frames, while new cognitive frames develop or are reinforced through extensions and combinations made in discursive acts of framing (Cornelissen & Werner, 2014).

In that respect, literature on the strategic framing of change emphasizes the role of framing practices as a means of communication to gain acceptance and support for the change at hand (e.g. Corley & Gioia, 2004; Fiss & Zajac, 2006; Kaplan, 2008b; Sonenshein, 2006). As Fiss and Zajac (2006) note, the success of an organization's strategic response to change also depends on an organization's ability to discursively frame its novel strategic direction towards its many stakeholders. Within this stream of literature, the main role of framing practices is to ensure understanding and acceptance of new strategies among key constituents, thus fostering the legitimacy of the strategic response (Fiss & Zajac, 2006). Similarly, organizational sensemaking and sensegiving research views framing as 'a pragmatic act of strategic

persuasion' (Cornelissen et al., 2011) through which decision-makers shape and direct stakeholders' interpretations of strategic change, whereby framing practices are used to move stakeholders' interpretations towards a particular interpretation and redefinition of the changing reality (e.g. Corley & Gioia, 2004; Gioia & Chittipeddi, 1991; Kaplan, 2008b, 2011a). Thus, literature on the strategic framing of change emphasizes the purposeful and intentional nature of framing practices as well as their role in instigating legitimacy. It points to managers' purposeful communication efforts to shape and direct cognitive frames of stakeholders both in and outside of the organization (Fiss & Hirsch, 2005; Fiss & Zajac, 2006; Gioia & Chittipeddi, 1991; Gioia, Thomas, Clark, & Chittipeddi, 1994; Maitlis & Lawrence, 2007).

This focus of existing literature on framing as an act of persuasion results from the fact that strategic management literature on framing practices builds on insights from research into social movements (e.g. Fiss & Hirsch, 2005; Fiss & Zajac, 2006; Kaplan, 2008b). As a result, since social movement theory and the ensuing strategy and cognition research emphasize the action-oriented and mobilizing aspects of framing practices, the actual framing practices reflecting the construction or adaptation of cognitive frames over time in the context of disruptive technological change largely remain a black box to managerial cognition scholars (Cornelissen et al., 2011; Kaplan, 2008b). Whereas managerial cognition scholars examine how cognitive frames direct managerial attention and thus influence firm response to changing circumstances (Barr, 1998; Barr, Stimpert, & Huff, 1992; Huff, 1990; Kaplan, 2008a, 2011a; Nadkarni & Barr, 2008), the actual evolution of framing practices as externally oriented articulations of the continuous development of cognitive frames remains unspecified. To develop fine-grained insights into the dynamics underlying cognitive inertia and its impact on incumbent inertia, additional work is needed on the micro-level discursive practices and their evolutionary progression in the context of disruptive change.

3.3. METHOD

3.3.1. An interpretative case-study approach

To study the dynamics underlying the evolutionary process of framing strategic change following disruption, we adopted an interpretative grounded theory-based case-study approach (Gioia, Corley, & Hamilton, 2013; Glaser & Strauss, 1967). We studied the framing practices

of two contrasting incumbent media groups in the Belgian newspaper industry who faced the industry's transformation from printed newspapers to digital news offerings, a truly disruptive technological change seeing that the rise of digital publishing held the potential to supplant both print readership and advertisers over time (Gilbert, 2005). The two media groups, Publisher and Newsroom, were particularly attractive incumbents to study in depth and longitudinally. First, together these groups cover the entire Dutch-speaking Belgian newspaper market (Publisher holds a market share of 40% with its newspapers, while Newsroom holds a share of 60%), thereby facing similar challenges and limitations (e.g., legal framework, small market due to language constraints, low competitive intensity, fast adoption of mobile technologies) with regards to their strategic responses to digitization. Second, one media group clearly moved faster in its efforts to develop new business models and strategically change in the increasingly digitized context. Therefore, developing an in-depth case study of both groups allowed for a comparison over time of their framing practices in relation to cognitive inertia. Third, because the core business in the industry consists of publishing, over the years these incumbents consistently published a variety of elaborate textual sources about themselves and decision-makers regularly expressed their opinions through a variety of owned channels (e.g., editorials, columns, press articles, interviews). This enabled the collection of a large and varied number of texts reflecting decision-makers' framing practices. Moreover, many decision-makers were journalists or former journalists who remained active within the groups for a long period of time, which allowed us to easily track their writings and statements regarding the strategic change towards digitization.

Because we argue that existing theory falls short in explaining the role of framing practices with regards to the evolution of cognitive inertia, the aim of the study was to engage in *theory elaboration*, thereby refining and complementing existing understandings on cognitive inertia (Locke, 2001). To engage in theory elaboration and better understand the occurrence of cognitive inertia in relation to how framing practices evolve over time in a context of strategic change following disruption, i.e. the evolutionary dynamics underlying framing, we followed the approach described by Gioia et al. (2013) to develop new concepts and to bring qualitative rigor to the research. Our inductive approach entailed numerous cycles of confrontation between theory and data. Each iteration directed us to additional lenses for data analysis or supplementary theoretical constructs. We used a combination of real-time and retrospective data to engage in several iterations. The findings presented in the next section include various intermediary conceptualizing steps of coding between raw case data and emerging theory.

3.3.2. Empirical setting

For decades, the Belgian newspaper industry proved to be a stable and profitable competitive environment, characterized by low rivalry between major media groups Publisher and Newsroom. However, with the advent of digital technologies in the late 1990s, print circulation started to decline. The incumbent media groups first responded to the introduction of digital technologies by developing their own websites as of the early-2000s. These first versions were very simple and static websites, resembling online archives of news content that had been published in printed papers. To sustainably develop this new digital business, the incumbents built on the idea that online advertising would largely compensate for the loss in revenues resulting from declining sales of printed newspapers and print advertisements. Consequently, online news content was provided for free via unsophisticated news sites related to newspaper titles. However, as time passed it became clear that online advertisement would not provide the revenues the incumbents had hoped for and decision-makers were left to rethink their digital strategies to regain profitability.

As of the mid-2000s, news sites became increasingly sophisticated websites, providing up-to-date news content via interactive applications and specifically developed formats. Yet digital content remained free as media groups hesitated to demand payment for online journalism, claiming that audiences had become accustomed to free news. By early 2010, the introduction of the iPad and experiments with paywalls started to gain traction, especially in the quest to convert printed newspaper subscribers into paying digital customers. The idea that readers would be willing to pay for digital news content slowly became feasible.

From an organizational point of view each media group developed its own strategy to address digitization, moving at its own pace to gain profitability with digital initiatives. Newsroom was eager and was the first to experiment with digital initiatives, to develop sophisticated websites, to create an iPad version of its newspapers and to introduce paywalls for mainstream newspapers. All of the digital initiatives for its newspapers were developed from within the existing organization, thereby resulting in the creation of integrated newsrooms for all titles in the media group's portfolio. Strategic changes were thus channeled through the existing organization. Moreover, as of 2011 Newsroom started investing significantly in a number of initiatives such as digital-only publications, fully integrated newsroom systems and new forms of representing digital content. By contrast, Publisher did not implement digital initiatives from within its core. It set up digital initiatives in a separate organization, Publisher Digital.

Moreover, with the exception of a financial niche newspaper in its portfolio, which did roll out digital initiatives in a timely fashion, Publisher was reluctant to develop digital initiatives for its mainstream newspapers. Whereas Newsroom introduced its digital initiatives much faster, Publisher explicitly held back until it became clear that digital activities could be launched in a profitable manner, as with the use of paywalls.

Finally, in terms of competition, it is important to note that in the Belgian market the most important digital news players have always been the incumbents themselves. While abroad purely digital players entered the news business and gained large market shares by providing digital news content, in the Belgian market Newsroom's and Publisher's digital news sites took up the largest market shares from the start. Digital newcomers, in comparison with incumbents' initiatives, were not able to profitably develop large audiences in the market.

3.3.3. Data collection

Initially, we entered data collection with the goal to understand why Publisher moved at a slower pace than Newsroom. Early on it became clear that meanings regarding digitization were created via the use of language, more specifically via framing practices. We therefore opted to gather an extensive collection of publicly accessible sources of evidence through which we could longitudinally study the framing practices employed by key decision-makers of Newsroom and Publisher including CEO's, top management members, editors-in-chief and chairmen. We collected a wide variety of texts produced by these decision-makers between 2000 and 2015 on the subject of digitization and its impact (see Table 8 for an overview). Specifically, we systematically selected texts containing direct quotes relevant to digitization. These texts depict the particular framing practices employed at specific points in time and include: (1) press articles and press releases, collected through exhaustive searches of databases such as Factiva and GoPress, which contain direct quotes from decision-makers at Newsroom and Publisher; (2) columns, editorials or essays written by these decision-makers; (3) interviews with these decision-makers in printed and audiovisual media (e.g., in aired debates, in news bulletins, in a documentary); and (4) the media groups' elaborate annual reports containing letters to shareholders and interviews comprising direct quotes from decision-makers. Ultimately, we collected over 1475 pages of relevant textual material. We relied on these texts as the main data source to study framing practices, as these represent real-time renderings of these practices.

To supplement our detailed archival data and verify whether our textual sources indeed adequately reflect decision-makers' framing of strategic change, during spring of 2015 we conducted a series of 10 extensive semi-structured interviews with key decision-makers from both media groups. These retrospective interviews were used as triangulation sources (Miles & Huberman, 1984). To collect these primary data, we identified and contacted top management team members who had conceptualized and implemented the strategic change towards digitization between 2000 and 2015, including digital business developers, digital managers, and CDO's (chief digital strategy officers). During these interviews, which were specifically designed to complement preliminary insights obtained from the analysis of the collected textual material and long-term retrospective in nature, we discussed a number of topics, such as new capability formation, change management, strategic innovation, failed and successful initiatives, (mis)interpretations about digitization, etc. Each interview lasted between 60 and 120 minutes, resulting in 200 pages of interview transcripts.

Finally, we gathered documents that would allow us to understand the developments in the media industry in general. These included articles from both the trade and business press, industry reports, governmental reports covering media firms and media concentration, and annual reports from all main telecom, audiovisual media and printed media firms.

3.3.4. Data analysis

In terms of data analysis, moving back and forth in an iterative fashion between our qualitative data and relevant theoretical arguments, we gradually developed a data structure and translated these structured insights into relevant theoretical constructs (Gioia et al., 2013). Coding all textual data with NVivo, the analysis was conducted in three major steps.

First, during initial readings of our textual materials, we identified decision-makers' statements regarding digitization and engaged in open coding (Strauss & Corbin, 1990; Strauss & Corbin, 1998). As suggested by Gioia et al. (2013), we used informant-centric terms and codes to label quotes regarding digital initiatives, the development of new capabilities, the development of new business models, experimentation, new competitors, quality journalism, news brands, free versus paying news content, etc.

Following multiple re-readings of the data, we gradually combined initial labels that were similar in essence into preliminary categories reflecting specific practices in decision-makers' framing of digitization, (e.g., 'questioning the viability of competitors' business models',

'presenting hybrid alternatives', 'underwriting the importance of printed news') (Gioia et al., 2013). This enabled us to lift the initial labels to a more abstract level to create what Gioia et al. (2013) have named first-order codes or categories.

During the second step of our analysis, we focused our attention on identifying specific framing practices. Using axial coding, we tentatively combined first-order codes into fewer, theoretically relevant second-order codes related to incumbents' framing of strategic change (Gioia et al., 2013; Strauss & Corbin, 1990). For example, codes reflecting framing practices emphasizing experimentation, the search for new business models and the development of new capabilities were grouped under the label 'search framing', while codes related to framing practices pointing to the usefulness, exploitation and fit of existing capabilities to tackle digitalization were grouped under the label 'fit framing'. Using researcher-centric terms and labels, we then searched for dimensions underlying these codes and labels in an attempt to understand how they would fit together into a coherent framework (Pratt, Rockmann, & Kaufmann, 2006). As such, search framing and fit framing were grouped under the label 'adaptive framing', as these specific types of framing practices imply framing the potential adaptation of capabilities and thus alternative modes of adaptation to strategic change.

As we analyzed all textual material, we generated memos containing newly developed insights about incumbents' argumentations, changes in decision-makers' reasoning and employed framing practices (Danneels, 2011). We continuously matched and contrasted these insights with relevant literature to refine our emerging theoretical interpretations and develop a theoretical understanding of new concepts (Eisenhardt, 1989; Gioia et al., 2013). In particular, the iterative process of constantly comparing our emergent theoretical interpretations with the case data led to a more refined theoretical understanding of what types of framing practices exist and how they could contribute to cognitive inertia.

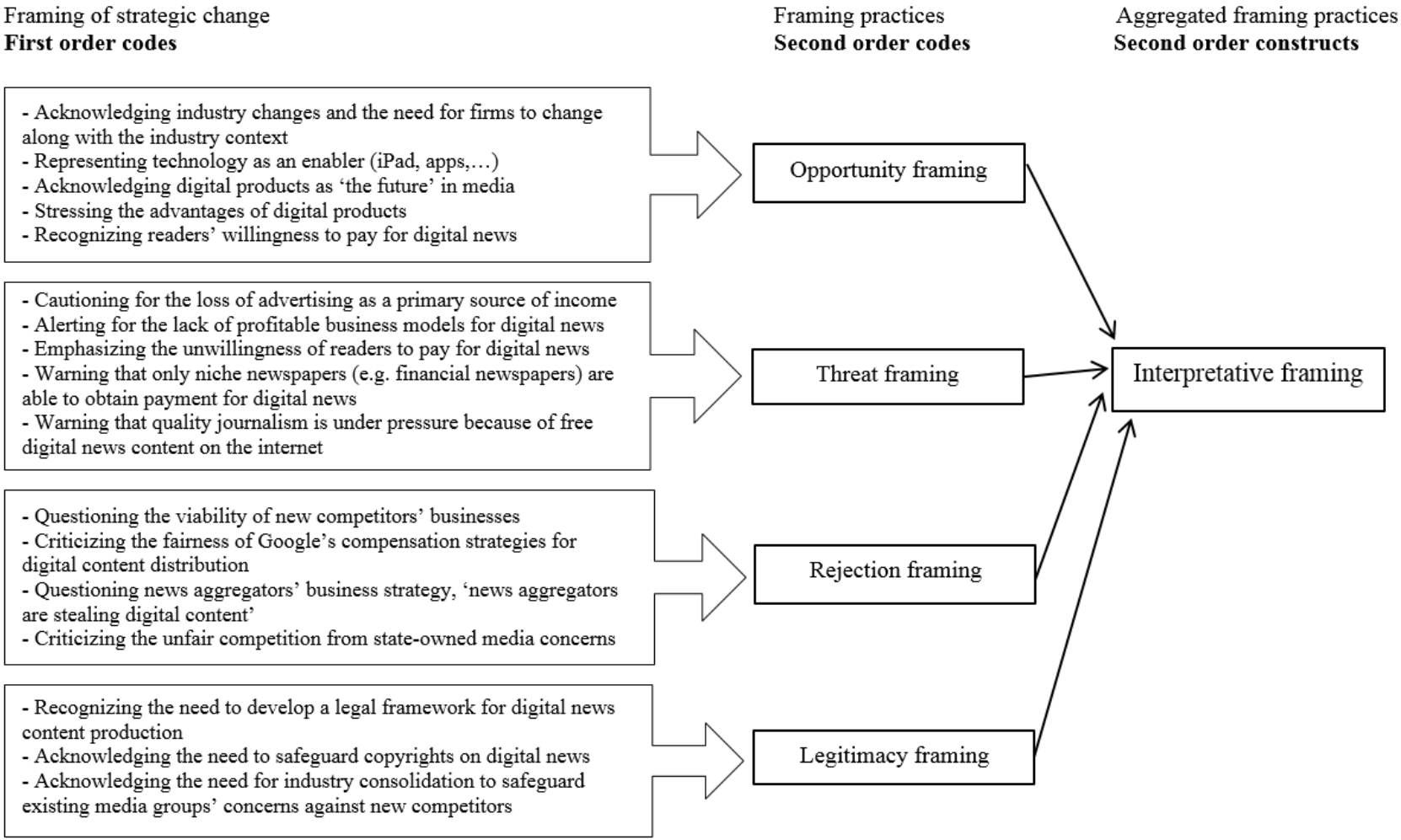
To avoid errors arising from confirmatory biases and other interpretation biases (Strauss & Corbin, 1998), the second author acted as a critical reviewer and interrogator of the first author throughout the process to ensure the validity of the emerging second-order constructs. Our emergent data structure in Figure 3 illustrates our first-order and second-order constructs. As suggested by Gioia et al. (2013), we provide quotes and tables in the Findings section to illustrate our data-to-theory connections and the process we followed when moving from raw case data to theoretically grounded concepts (e.g., types of framing practices).

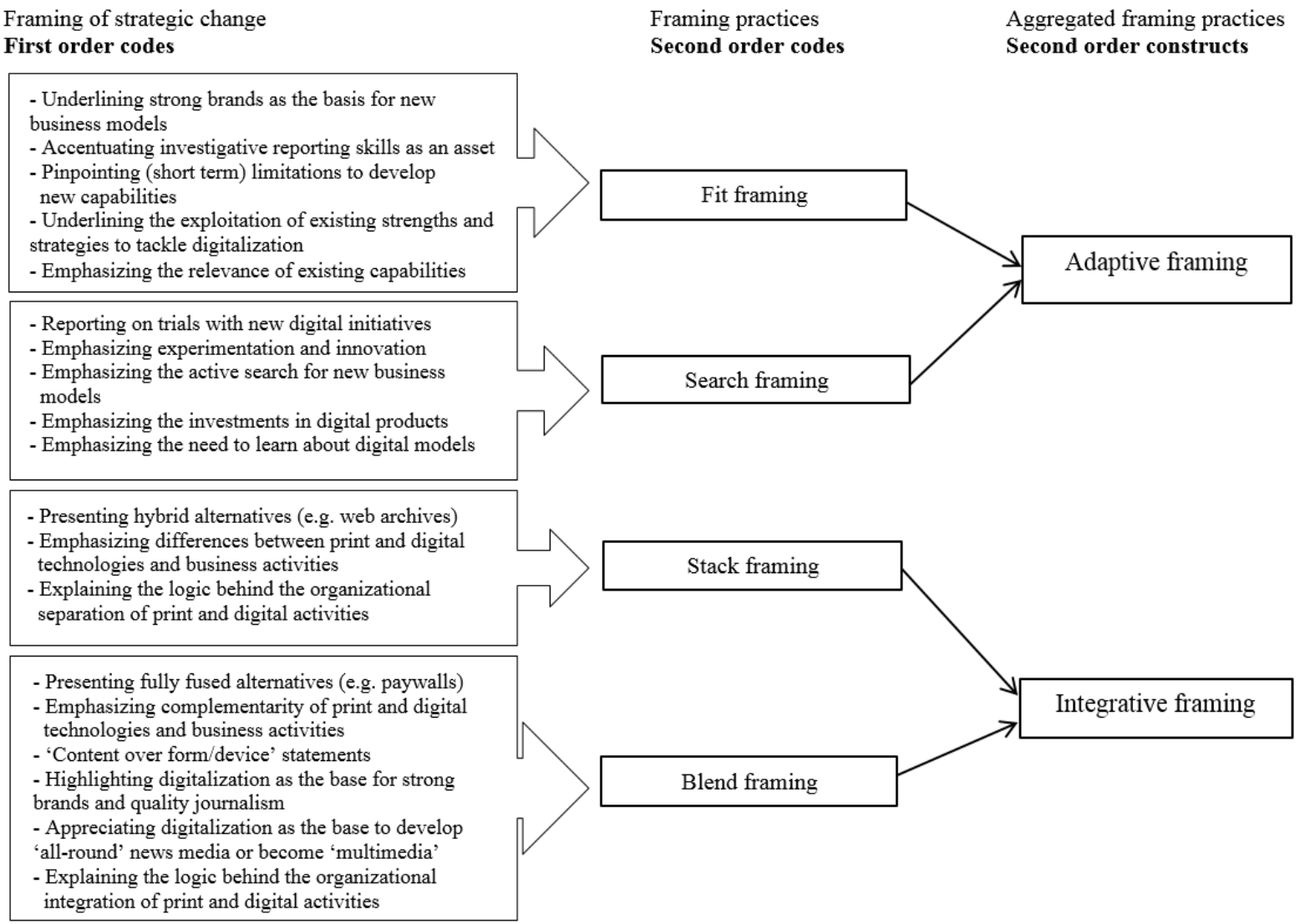
Table 8 Overview data collection sources

Data Source	Newsroom	Publisher	Use in Analysis
Press articles and releases, interviews (printed press), columns, editorials, essays from 7 sources (5 newspapers, 2 business magazines)	n = 64 190 pages	n = 98 140 pages	Collect direct and real-time quotes to capture framing practices used by incumbents.
Interviews (radio and television)	n = 18 190 minutes	n = 14 245 minutes	Idem
Annual reports, including letters to shareholders	n = 10* > 543 pages**	n = 12* 602 pages	Idem
Interviews (Spring 2015)	n = 6 117 pages	n = 4 83 pages	Triangulate chronological reconstruction of transition towards digital offerings. Support and triangulate preliminary findings.

* Annual reports were only selected if a report contained elaborate textual material (letters to shareholders, opinion pieces, etc). Chapters containing solely financial results were excluded from the page count
**As of 2011, annual reports became a compilation of webpages and audiovisual fragments, not allowing an exact page count

Figure 3 Data structure




Framing of strategic change
First order codes
Framing practices
Second order codes
Aggregated framing practices
Second order constructs
- Underlining strong brands as the basis for new business models
- Accentuating investigative reporting skills as an asset
- Pinpointing (short term) limitations to develop new capabilities
- Underlining the exploitation of existing strengths and strategies to tackle digitalization
- Emphasizing the relevance of existing capabilities
Fit framing
- Reporting on trials with new digital initiatives
- Emphasizing experimentation and innovation
- Emphasizing the active search for new business models
- Emphasizing the investments in digital products
- Emphasizing the need to learn about digital models
Search framing
Adaptive framing
- Presenting hybrid alternatives (e.g. web archives)
- Emphasizing differences between print and digital technologies and business activities
- Explaining the logic behind the organizational separation of print and digital activities
Stack framing
- Presenting fully fused alternatives (e.g. paywalls)
- Emphasizing complementarity of print and digital technologies and business activities
- 'Content over form/device' statements
- Highlighting digitalization as the base for strong brands and quality journalism
- Appreciating digitalization as the base to develop 'all-round' news media or become 'multimedia'
- Explaining the logic behind the organizational integration of print and digital activities
Blend framing
Integrative framing

Third, as our theoretical understanding of framing practices deepened, we searched for similarities and differences in how these practices contribute to cognitive inertia and organized them accordingly. Moreover, we tracked their occurrence over time for each media group. Importantly, for our analysis we did not depart from pre-set time periods. Yet during our analysis of framing practices (and shifts between practices), we were able to pinpoint three periods displaying significant differences in terms of the use of specific framing practices. These periods concur with specific developments in the industry. First, after the internet bubble burst up until approximately the mid-2000's very basic news sites were launched as free sites. Second, during a following time period, ranging from the mid-2000's to 2012, initiatives with more sophisticated digital news offerings were prevalent. At first, these would require sophisticated web development technology, yet by the end of the time period these would also entail the use of iPad and mobile technologies, all with the aim of offering digital news in a sophisticated manner. As of 2013, we found that digitization reached a new phase, with the newspaper industry launching digital-only products and implementing paywalls, and media groups' strong strategic focus on digitization becoming increasingly visible. In sum, we used these time periods to highlight differences and similarities in terms of media groups' adoption of framing practices.

By tracking the evolutionary occurrence of specific framing practices and mapping the sequential interrelations between them, we identified the dynamics underlying the evolution of framing and the potential occurrence of cognitive inertia. Following Gioia et al. (2013), we weaved together our second-order constructs in a grounded theory framework.

3.4. FINDINGS

Decision-makers' statements related to the strategic impact of digitization convey how incumbents struggled to strategically address the disruption at hand. By developing a typology of framing practices and tracing the alternative framing paths decision-makers engaged in over time, we pinpoint the evolutionary process of framing. Consequently, we develop a theoretical model on the unfolding process of framing in relation to the occurrence of cognitive inertia.

3.4.3. A typology of framing practices

Our primary focus was to study the framing practices underlying the ongoing and dynamic process of meaning construction in which incumbents' decision-makers engage when confronted with disruptive change. Specifically, we found that eight types of framing practices characterize such a process and grouped these into three main categories: framing practices depict decision-makers' attempts to either establish interpretations of the impact of the disruptive change (interpretative framing), adapt understandings on core capabilities to deal with the strategic change at hand (adaptive framing), or integrate the change into renewed understandings of relevant market offerings (integrative framing). To illustrate our data-to-theory connections, Table 9 presents representative quotes for each type of framing practice that we identified. Table 10 and 11 illustrate the extent to which decision-makers of the two media groups we studied, engaged in each practice over time.

Interpretative framing. Using interpretative framing practices, decision-makers focus on establishing adequate interpretations of the meaning and implications of the strategic change at hand. Data suggests that interpretative framing practices evolve around two issues, namely opportunity/threat framing and legitimacy/rejection framing.

First, similar to Gilbert (2005) our data show that by using opportunity/threat framing decision-makers discursively attempt to question or, conversely, embrace the disruptive nature of new digital technologies. On the one hand, we find that in some instances decision-makers focus on the threats brought along by digitization. For instance, they question the viability of new revenue models. Thus, a main concern is whether customers would be willing to pay for digital news content. Other concerns include the possible consequences of free digital content for the news-producing ecosystem, the lack of clarity regarding the profitability of new revenue models and the advantage of specialized newspapers (focusing on financial news, as opposed to general newspapers) with regards to charging readers.

'But in general, we must conclude that so far, no suitable business model has been developed for internet activities because it is still very difficult to develop profitable internet activities in the consumer market. It is not easy to remain competitive because software technologies are changing so rapidly. Moreover, internet usage and e-commerce have not grown as strongly or spectacularly as predicted. Finally, keeping in mind the true costs related to developing reliable digital news content, it is almost impossible to charge consumers accordingly.' CEO Newsroom, 2001, in newspaper article

Table 9 Typology of framing practices: representative quotes

Reinforcing cognitive inertia		***Attenuating cognitive inertia***	
Threat framing	About threats brought forth by digital publishing: *'If there is a main threat originating from the internet, it is the one related to one of our most important sources of revenues: the classified ads.' CEO Newsroom, 1999, in a newspaper article*	*Opportunity framing*	About opportunities brought forth by digital publishing: *'In fact, anything is possible. If 10 amazing photos come in, you can only add two in the paper, but the other 8 can be added to the digital version of the newspaper.' Decision-maker Publisher, 2010, in a newspaper article*
Rejection framing	About dismissing the increasingly digitized news ecosystem: *'It is pure theft [content aggregators]. [] We put a lot of energy in investigative reporting and within seconds the result of all this work is on all Dutch sites [] and I get zero in return. [] And from their point of view, they say 'we only aggregate', but in fact they are thieves of hard work.' Decision-maker Newsroom, 2013, documentary*	*Legitimacy framing*	About validating the increasingly digitized news ecosystem: *'To thrive in a global digital economy we all need an open but fair internet, with fairness and transparency in search, the freedom to advertise, the freedom to license and sell our content and a fair, logical VAT system that extends the reduced or zero rated VAT rates applied to offline books, newspapers, journals and magazines to our online publications; the least Europe could do to boost its digital single market.' CEO Publisher, 2014, essay*
Fit framing	About exploiting strengths of printed news, including investigative reporting: *'If the daily newspaper is to survive, it should not focus on speed, but concentrate on reflection and analysis, scoops and investigative reporting.' Decision-maker Publisher, 2005, newspaper article*	*Search framing*	About exploring new capabilities through experimentation with digital technologies: *'Once again, Daily Standard pushes the frontiers of its digital development. In July, a new version of Daily Standard Mobile will be launched. Apart from providing a mere replication of the printed newspaper on iPad, Daily Standard will be the first Flemish newspaper to offer a specifically designed version of the newspaper for tablets'. Newsroom, 2011, annual report*
Stack framing	About a hybrid product offering consisting of a print format offering internet-like news: *'Call them the internet generation, those people who want to be well-informed, yet via short pieces, in a nutshell, reasonably fast. An overview of the world news in 10 minutes []. I think, I am convinced, that Espresso, the paper we are creating right now, will provide an answer to these needs that are popping up everywhere.' Editor-in-chief Newsroom, 2005, television news bulletin*	*Blend framing*	About fully integrated product offerings: *'Whereas a printed newspaper mainly provides the overview, background information, analysis and information with high added value, a website is mainly focused on speed and permanent updates. But whether we bring news online or via print, it will be produced by the same staff, the same team, with the same dedication and the same amount of attention to quality, rigor and reliability. And therefore, it is only logical to come out using one single news brand.' Editor-in-chief Newsroom, 2008, newspaper article*

Table 10 Framing practices on a continuum

Publisher (A) or Newsroom (B)		Phase 1 Post-Internet Bubble (2001-2005)	Phase 2 1st Initiatives (2006-2012)	Phase 3 Crystallization Period (2013-2015)
Interpretative framing practices				
Threat framing	A	Intense use	Intense use	Sporadic use
	B	Intense use	Sporadic use	Sporadic use
Rejection framing	A	Intense use	Sporadic use	
	B	Sporadic use		
Opportunity framing	A			Intense use
	B		Sporadic use	Intense use
Legitimacy framing	A			Intense use
	B		Sporadic use	Intense use
Adaptive framing practices				
Fit framing	A	Intense use	Sporadic use	Sporadic use
	B	Intense use	Sporadic use	Sporadic use
Search framing	A		Sporadic use	Intense use
	B	Sporadic use	Intense use	Intense use
Integrative framing practices				
Stack framing	A	Intense use	Intense use	
	B	Intense use		
Blend framing	A			Intense use
	B		Intense use	Intense use

On the other hand, decision-makers engage in opportunity framing, in which new technologies are embraced as enablers of strategic change brought forth by digitization. Digital products are represented as 'the future', whereby advantages of such products are emphasized. Mobile technologies are acclaimed for providing a beneficial boost to the consumption of digital content.

'You see that the digital story is pushing newspaper titles forward and is going to make them grow into full-fledged news media.' CEO Publisher, 2014, in newspaper article

Second, decision-makers attempt to evaluate the legitimacy of the practices adopted by new competitors, such as Facebook and Google, into their industry. On the one hand, the legitimacy of these practices is questioned and, in certain cases, legitimacy claims are rejected. For instance, aggregator practices are depicted as the theft of digital content produced by media groups. On the other hand, decision-makers discursively establish a number of boundary conditions which they think are essential to address such practices. As such, they criticize the lack of an international legal framework for the news industry. Bit by bit, as boundary conditions are developing, legitimacy is being granted to new practices, new players, new businesses, etc.

'More and more often, editors are confronted with news aggregators (such as Google News, red.), clipping services and search engines who take advantage of our journalistic endeavors. In fact, it is stealing.' CEO Newsroom, 2010, in newspaper article

'The most important change is that the balance of power has shifted from the media industry to the technology industry. Along with such a shift come very important questions about the interpretation of intellectual copyrights on the internet. [] Who owns what content in a digital world? What rights or obligations does that bring along and how can you reinforce these without having to go to court, where you will only get an answer by the year 2020?' CEO Publisher, 2012, in newspaper article

In sum, as decision-makers engage in these four interpretative framing practices, they establish the meaning and implications of the strategic change instigated by digitization in terms of competitive dynamics. Additional representative quotes can be found in Table 9.

Interestingly, and as illustrated in Table 10, over time the framing practices characterizing the communication efforts of incumbents reflect decision-makers' evolving framing of the extent to which the newspaper industry will change. Whereas in early years, opportunity/threat and legitimacy/rejection framing practices are directed towards cognitively questioning the legitimacy of (new) competitors' practices and highlighting the threat digitization posed to existing business, we observe that over time, decision-makers increasingly acknowledge the

disruptive practices resulting from the change towards digital technologies and the business opportunities accompanying such change. Especially as digital initiatives become more profitable, for instance through the successful introduction of paywalls for specific parts of newspaper websites, confidence grows that it will at last be possible to find a viable business model for the industry. Consequently, building on such an interpretation of digitization, decision-makers start to embrace its disruptive technological character, the idea of developing viable new business models, and its consequences for competitive dynamics in the industry. This instigates changes in incumbents' framing of digitization, thus resulting in the development and use of new cognitive frames, i.e. cognitive change.

From an evolutionary perspective we observe a discrepancy in this unfolding evolution towards acknowledging the legitimacy and boundary conditions of new competitive practices and establishing the potential value of the strategic change at hand, as illustrated in Table 11. For a longer period of time, decision-makers at Publisher underline the newspaper industry's ongoing search for viable legal revenue models and the enduring relevance of existing print business, thus questioning the legitimacy of the new competitive dynamics and the potential for new business development. In contrast, decision-makers at Newsroom reflect more quickly and more regularly on the possibility that digital news offerings might inevitably bring about a new ecosystem in the industry and thus opportunities. Thus, Newsroom's framing efforts reflect a willingness to evaluate existing understandings and develop and use new cognitive frames.

Adaptive framing. Adaptive framing practices refer to decision-makers' attempts at discursively revising existing capabilities to realign them with the changing context. These adaptive framing practices are motivated by decision-makers' aspirations to remain strategically relevant actors in the changing competitive landscape. As such, decision-makers try to safeguard strategic positioning by expressing ideas and opinions on the realignment of a media group's capabilities within the changing context.

Data suggests that there are two types of adaptive framing practices: fit framing practices and search framing practices. First, fit framing practices entail that decision-makers emphasize the value and fit of existing capabilities to be re-used, and thus exploited, in the digitized newspaper business. New developments are framed in such a way that existing understandings of relevant capabilities remain valid. Alignment of capabilities with the change at hand can be achieved via modest adaptation of existing capabilities. For instance, on numerous occasions,

investigative reporting and strong brands are put forward as core capabilities of the printed press business that can reinforce the incumbent media groups' relevance within the digitized industry, hence providing a competitive advantage.

'It is our belief that the strongest newssites will be developed by newspaper companies because these have the strongest capabilities and expertise related to news.' CEO Publisher, 2007, in annual report

Second, search framing practices refer to statements in which decision-makers suggest developing new capabilities, and consequently new products and new models, to benefit from the digitization in the industry. Search framing practices entail the radical enlargement of existing ways to deal with the strategic change at hand, thus conceptualizing the need for radical adaptation of capabilities. For instance, as incumbents attempt to convey their ability to adapt to a changing context as well as their enduring relevance within the industry, they refer to their focus on innovation and experimentation, their experimental search for a profitable business model for digital activities, their investments in digital technologies, novel ways to organize business activities, etc.

'Every platform has its own advantages and disadvantages. Ultimately, it comes down to the fact that you should determine what to do on each platform. It comes with trial-and-error, but sometimes you also really have the feeling that you nailed it.' Editor-in-chief, Publisher, 2012, in newspaper article

In sum, decision-makers frame the need to adapt to change, thereby assessing and evaluating their own core capabilities or limitations in the face of digitization. As such, adaptive framing practices illustrate the extent to which incumbents engage in the revision of the strategic relevance of a media group's capabilities. Both framing practices refer to a different mode of adaptation to the change at hand: while fit framing entails the presentation of a media group's current capabilities as relatively well-matched to the change at hand, search framing advocates the development and use of radically transformed capabilities in order to align with the disruptive change at hand. Additional illustrative quotes for each framing practice can be found in Table 9.

From an evolutionary perspective, as we observe decision-makers' evolving engagement in adaptive framing practices, our case data illustrate that fit framing practices are omnipresent (Table 10). By contrast, search framing practices gradually gain in importance over the years: an increase in search framing practices surfaces, while fit framing practices, albeit slightly diminishing, persist in incumbents' framing efforts. Also, over time Newsroom appears to adopt search framing practices more quickly and extensively than Publisher, who seems more

hesitant to use such a framing practice (Table 10 & 11). Thus, our data suggest that both groups engage in fit framing, thereby reflecting on how to use existing core capabilities to address digitization. Such framing is congruent with existing cognitive frames, contributing to cognitive inertia. However, Newsroom's framing efforts also reflect its attempt to look beyond its existing capabilities and suggest ideas for experimentation. Thus, Newsroom's framing efforts reflect a quicker move, or *reframing*, towards a revised framing of how to address digitization, signaling the development and use of new cognitive frames. Publisher lingers to engage in search framing practices, which reflects the endurance of previous frames and thus cognitive inertia.

Integrative framing. Integrative framing practices refer to statements through which decision-makers propose concrete pathways to integrate old and new technologies to develop market offerings. Data suggests that there are two types of integrative framing: stack framing practices focus on expressing the incompatible heterogeneity of print and digital activities, while blend framing practices advocate the complementarity aspects of print and digital activities for the newspaper business. With regards to stack framing practices, decision-makers largely underline the incompatibility of running both print and digital business activities and suggest the development of products that could be typified as hybrid products, including online news offerings which mainly consist of digitally archived news clippings or printed newspapers for the 'internet generation'. While the necessary new capabilities are available to develop digital activities, these are developed in parallel to print activities, resulting in hybrid market offerings. The possibilities offered by print and digital technologies are stacked together without truly interweaving their strengths or characteristics.

'I still do not believe that it is a good idea to just throw the content of a newspaper on the internet. I do however believe in an online archive function, requiring payment. Things that you can do more easily on the internet should be done there. Unfortunately, it is still an expensive medium.' CEO Publisher, 2003, in newspaper article

In contrast, as decision-makers engage in blend framing practices, they advocate how truly integrated editorial offices should be able to develop and offer fully fused products. Blend framing entails fully assimilating framing regarding the possibilities for newsmaking brought forward by digitization. It resonates with what Cohen and Levinthal (1990) have termed absorptive capacity, i.e. the ability to recognize, assimilate and apply new and external advancements, yet we define it specifically in relation to framing disruptive change. Whereas stack framing practices emphasize the incompatibility between print and digital, resulting in

unrelated offerings of both technologies to readers, blend framing practices focus on their complementarity and mutually reinforcing advantages. For instance, fully fused products are able to meet the dual needs of readers by providing digital and quickly updated news feeds during the week, supplemented by an extra-large paper version of the weekend edition. Content and 'bringing the news' are deemed more important than the format under which this occurs.

'I do not understand why some editors and journalists hold on so frenetically to paper. According to me, it is much more about the content than about the medium. We want to bring good journalism. Whether on paper, on a website or in a digital newspaper, that is not of any importance.' CEO Newsroom, 2012, in newspaper article

Thus, these two framing practices reflect and convey decision-makers' articulation of potential pathways to address the changing context, develop new market offerings and (re-)build a media group's strategic relevance. As such, integrative framing practices depict the extent to which a media group engages in the integration of the strategic change at hand. Through these integrative framing practices, they attempt to (re-)claim a relevant competitive position. However, both types of framing practices refer to a different mode of integrating the strategic change at hand: while stack framing practices reflect decision-makers' focus on merely combining both technologies without any generative interaction, blend framing practices reflect the profound merging of print and digital components.

From an evolutionary perspective the data illustrate that while both media groups initially engage in stack framing practices, thus contemplating hybrid offerings, they eventually move to blend framing practices, developing concrete suggestions for truly fused offerings (Table 10). This change in framing practices reflects the reframing efforts decision-makers engage in as their framing of digitization and digital products evolves. However, we do observe that Newsroom adopts blend framing practices earlier than Publisher (Table 10 and 11). Thus, Newsroom's framing efforts reflect a quicker move towards a revised framing of the complementarity of print and digital media, thus signaling the development and use of new cognitive frames. Publisher engages in such blend framing practices at a later stage. Thus, as an incumbent delays engagement in blend framing, it echoes the endurance of previous interpretations at the expense of a renewed understanding of the possibilities of the technological disruption at hand and therefore reinforces cognitive inertia.

Table 11 Differences in framing practices among incumbents: representative quotes

	Publisher	Newsroom
Post-internet bubble (2001-2005)		
Newsroom uses more search framing practices than Publisher.	About Publisher's unwillingness to engage in experiments with digital technologies: *'Our media group was the most conservative media company when everyone was talking about the internet revolution during the late 1990's. When the bubble burst, most pioneers could do nothing else than to lick their wounds after their defeat.' CEO, 2004, annual report*	About Newsroom's willingness to engage in experiments with digital technologies: *'In the digital story, Daily Standard has always chosen to steer a careful but progressive course. We built a first site in 1995, which was renewed in 1998 and again in 2000. During those years, dailystandard.be developed into one of the most often visited newssites of the country.' Editor-in-chief, 2002, newspaper article*
1st Wave of initiatives (2006-2012)		
Newsroom uses more opportunity and legitimacy framing than Publisher.	About the non-opportunity brought forth by digital news content: *'To me, it seems like a very hard exercise to introduce paying models these days. [] They have never been a success in the past and by now people are used to online news being free.' Decision-maker, 2009, newspaper article* About the rejection of technology actors' business model (e.g. content aggregators) in the news ecosystem: *'I am very curious to find out whether such a model will survive. You put an enormous amount of sites into one proposition and the only thing I get, as an advertiser, is eyeballs or clicks. So what? Is there an intent to purchase?' CEO, 2010, newspaper article*	About opportunities brought forth by digital publishing: *'10% of our advertisement revenues are earned online. It is becoming real money. Daily Standard Online is, if we only take into account specific costs, becoming a profitable business.' Editor-in-chief, 2009, newspaper article* About the legitimacy of new competitors in the news ecosystem: *'The competition is no longer limited to the traditional newspaper editors, multiple other new players have popped up. [] Readers' brand loyalty is no longer limited to a single newspaper, but has extended to multiple sources, including content aggregators.' Annual report, 2008*
Newsroom uses more search framing practices than Publisher.	About sticking to exploitation of existing capabilities: *'At Publisher, we aim for sustainable success, also with new media. [] As long as there is no business model, there is no point in moving into a specific market.' CEO, 2010, newspaper article* About sticking to exploitation of existing capabilities**:** *'Publisher does not experiment with technology, we are patiently awaiting what will happen in the tablet market.' CEO, 2011, newspaper article*	About exploring digital capabilities: *'Very quickly, the group realized that there are many opportunities related to offering online information. Newsroom found new distribution channels for its products and is experimenting with possibilities for reader interaction. Innovation is a game of trial-and-error. The group's willingness to play the game commands respect and distinguishes Newsroom from less entrepreneurial adversaries.' Decision-maker, 2006, annual report* About exploring digital capabilities: '*When media companies innovate, they do so by adjusting their editorial content to technological evolutions. [] That is why in 2012 we want to continue our investment policy in state-of-the-art technology.' Chairman and CEO, 2011, letter to shareholders*
Publisher uses stack framing practices, whereas Newsroom uses blend framing practices.	About irreconcilable differences between print and digital publishing: *'Our digital platform does not link up to the principles we stand for [with the printed newspaper].' Editor-in-chief, 2012, newspaper article*	About mutually reinforcing advantages of print and digital technologies: *'Our core business as a media company is to build an audience. Over the years, our task did not change fundamentally. However, the context in which we perform such a task has changed. The paradox – or rather the complementarity – between online and offline media plays a role in all this.*

	About irreconcilable differences between print and digital publishing: *'It depends on what product you want to create. We are keeping both editorial offices [print and digital] strictly separate from each other, because NewsEx.be [digital] and The NewsExpress [print] are two totally different media that require different sorts of journalism. [] Newspaper journalists should focus on creating the best possible newspapers. Website journalists should develop the best possible sites.' Editor-in-chief, 2008, newspaper article*	*In future years, more than ever, the consumer will satisfy his appetite for information via disparate channels.' CEO, 2006, annual report* About mutually reinforcing advantages of print and digital technologies*: 'In 2011, the core objective for Newsroom was to engage in digital acceleration. With an optimal combination of print and online publishing, our newspaper titles had to develop even further into true news brands that would reach more Belgians than ever before, news consumers with who the brands would remain connected all day long.' Decision-maker, 2011, annual report*
Crystallization Period (2013-2015)		
Both Publisher and Newsroom engage in opportunity and legitimacy framing	About opportunities brought forth by digital publishing: *'Thanks to mobile internet technology, which is becoming much more important for our industry than fixed internet access to go online, newspapers can become true digital newsmedia, with revenue streams originating from different sources [print, mobile,…].' CEO, 2014, newspaper article* About creating an extended code of conduct within the news ecosystem: *'You can feel that things are changing. Five years ago, you were not allowed to complain when content was copied or stolen online. 'This is a new world' they said. Today that is changing. People realize that nothing comes for free [that there is a legal framework].' CEO, 2014, newspaper article*	About opportunities brought forth by digital publishing: *'[] the printed newspaper is getting older. If technology advances even further and, for instance, we start using flexible, roll-up iPads, then things can go really quickly.' Chairman, 2013, magazine article* About the legitimacy of new competitors within the news ecosystem: *'The media, that is us, but also mainly Google and Facebook.' Decision-makers, 2014, newspaper article*
Both Publisher and Newsroom engage in search framing practices.	About exploring digital capabilities: *'The newspaper is ready for a next step. We are working hard to realize an ambitious project aimed at turning Morning News into a truly multimedia news brand. Of course, we still believe in the power of the printed newspaper, but we do see many opportunities to enrich the title with websites and apps, in order to service our readers even better.' CEO, 2014, newspaper article*	About exploring digital capabilities: *'Let us try and fail, let us move on to something else,… Those competitors who are best at it, will be the survivors in our industry. They will develop models that… Maybe on a different scale, maybe less big, maybe for certain specific target groups, but they will be the ones who develop viable business models.' Editor-in-chief, 2013, documentary*
Both Publisher and Newsroom engage in blend framing practices.	About mutually reinforcing advantages of print and digital technologies*: 'The web editors, who used to work in a different building, moved in with their newspaper colleagues last spring and were subsumed under the same Editor-in-Chief. The ultimate goal: creating content together. [] Print and online are now so integrated that no one is stubbornly defending their 'own' territory anymore. [] The web is perfect for 'unloading' news and interesting people in the whole story, which they can find in the newspaper – complete with all the details and content the medium can offer. So we're happy with the 'cannibal' of the family, since it has only helped the paper. We enhance each other more and more.' Decision-maker, 2013, annual report*	About mutually reinforcing advantages of print and digital technologies*: 'We should be proud of the complementarity that we have developed between print and online.' CEO, 2013, newspaper article*

3.4.2. The evolutionary process of framing change

Through a range of framing practices, decision-makers steer interpretative comprehension of the disruption at hand, realign perspectives on the relevance of existing and new capabilities with the changing situation and gradually (re-)build strategic relevance in the competitive landscape by conceptualizing digitized market offerings. Decision-makers' use of specific framing practices evolved over time. Interestingly, the pace at which different incumbents engaged in the eight types of framing practices and moved from one type of framing to another, differs, which provides ground to explain discrepancies in terms of incumbents' strategic responses to change. Also, their engagement in one framing practice influenced the subsequent engagement with another framing practice. For instance, decision-makers first needed to employ search framing practices to be able to advance to either stack framing or blend framing practices. By looking into these differential and temporal aspects related to framing disruptive change, we were able to pinpoint alternative framing pathways in our case studies, as shown in Table 10. Building upon these findings and as shown in Figure 4, we explain the evolutionary process of framing disruptive change below.

Our data suggests that decision-makers' transitioned from merely framing digitization using threat or rejection framing practices to framing digitization in terms of opportunity recognition and legitimacy acknowledgement. Such reframing of digitization instigated decision-makers to consequently engage in framing the adaptation to and integration of the change at hand. Lingering in framing practices focusing on threat recognition and the rejection of digitization (and its consequences) as a legitimate change, would impede such evolution towards adaptive and integrative framing and contribute to cognitive inertia.

Next, once an incumbent started framing digitization and its consequences using opportunity and legitimacy framing practices, two potential routes could be taken to frame the adaptation to the change at hand. On the one hand, we observe that decision-makers framed the adaptation to digitization within familiar boundaries, resulting in the use of fit framing practices, emphasizing the fit of existing capabilities to tackle the disruptive change at hand. On the other hand, decision-makers framed adaptation to digitization by opening up existing framing to include the development and adoption of new capabilities in order to incorporate innovative alternatives. By unlocking existing framing, decision-makers became prone to engage in search

framing practices, emphasizing the need for experimentation and trial-and-error learning. Moving from fit framing practices to search framing practices required reframing.

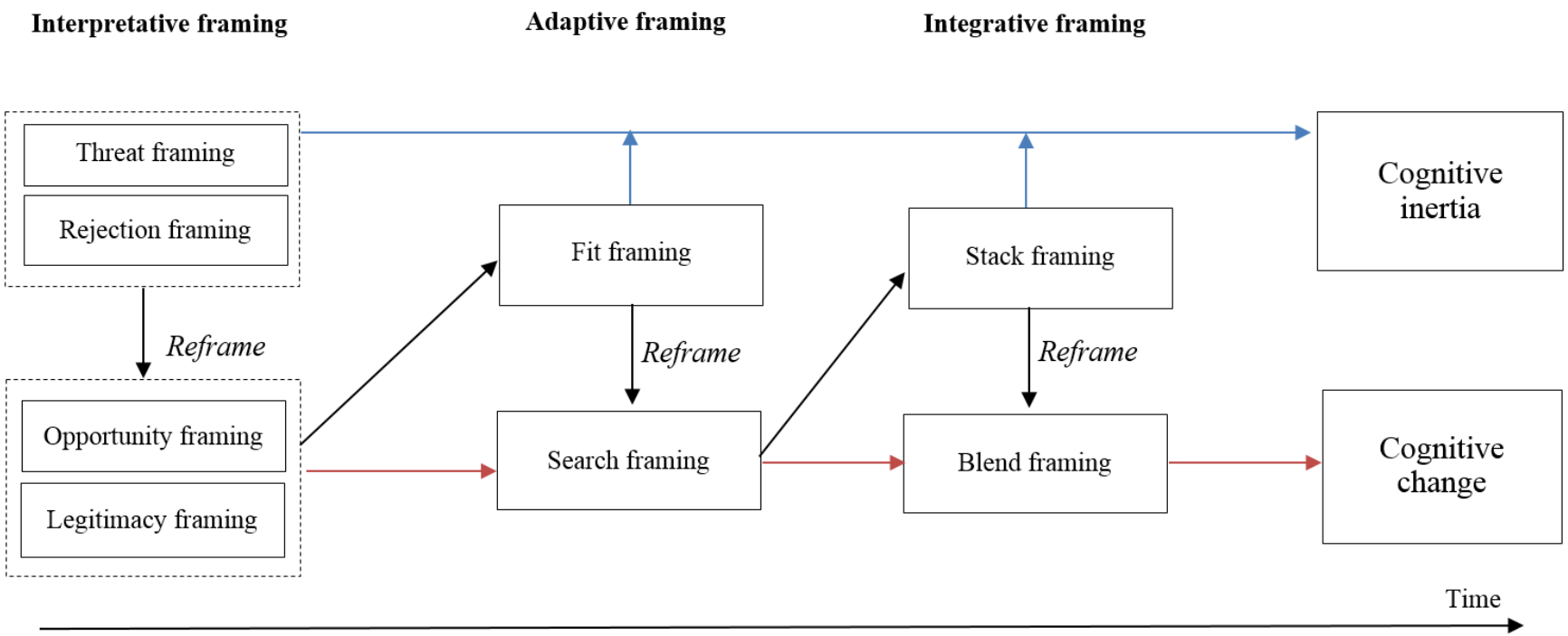
Finally, once decision-makers started framing the adaptation of capabilities to digitization using search framing practices, two potential routes could be taken to frame the actual integration of digitization into new product development activities. On the one hand, we found that, when framing new and potentially interesting developments in print and digital technology domains, decision-makers engaged in stack framing practices. Conceptualizing and advocating the integration of digitization into new product offerings would result in hybrid products, hybrid work processes and unrelated offerings combining print and digital aspects without fully fusing both together. On the other hand, decision-makers assimilated framing regarding new and potentially interesting developments in print and digital technology domains. Engaging in blend framing resulted in fused products and work processes focusing on the full immersion of print and digital aspects to produce relevant market offerings. Moving from stack framing practices to blend framing practices required reframing.

By identifying the alternative framing paths characterizing the evolutionary process of framing, we explain why specific framing practices are sequentially employed and how these practices eventually reinforce or attenuate cognitive inertia. Accordingly, our grounded model offers an insight into the framing practices that lead firms to inertia in response to disruptive change and how these practices evolve over time.

3.5. DISCUSSION

Whereas the importance of cognitive inertia and decision-makers' tendency to develop strategic responses to change that are congruent with existing cognitive frames has been highlighted in previous research on strategic inertia (e.g. Tripsas & Gavetti, 2000), our study presents a complementary lens to explain incumbents' strategic inertia. The purpose of this study was to advance theory on cognitive inertia by examining decision-makers' framing practices and their continuous evolution in response to disruptive change, thereby using empirical case data to identify and explore new concepts related to the evolutionary process of framing strategic change. While previous studies acknowledge the interconnected relation between cognition and language, the actual framing practices underlying the construction and adaptation of

Figure 4 Grounded theory framework on the evolutionary process of framing, sequential interrelations and outcomes



cognitive frames over time largely remained a black box to managerial cognition scholars (Cornelissen, Holt, Zundel, 2011; Kaplan, 2008b).

Our study reached its purpose in several ways. We developed a typology of framing practices, which reflect and signal whether decision-makers articulate existing or new cognitive frames, and thus whether cognitive inertia is reinforced. For instance, fit framing practices underline the value of existing capabilities to tackle digitization, whereby decision-makers largely advocate the use of existing cognitive frames to strategically respond to change. Such framing largely supports cognitive inertia. In contrast, search framing practices highlight decision-makers' emphasis on the search for new capabilities, illustrating the need for new cognitive frames to strategically respond to digitization.

Moreover, we pinpointed discrepancies regarding the pace at which decision-makers' shift between specific framing practices. Depending on the framing practices decision-makers engage in and the pace at which they switch between framing practices, the articulation of new cognitive frames occurs more swiftly or slowly. Based on these findings, we defined the evolutionary process of framing.

Finally, we found that the evolutionary process of framing potentially culminates in the use of blend framing practices which reflects the development of absorptive capacity. Hence, depending on the pace at which decision-makers move to blend framing practices, the cognitive development of absorptive capacity occurs more swiftly or slowly.

3.5.1. Theoretical implications

Understanding the evolutionary process of framing change is critical to advancing theory on strategic inertia. The occurrence of strategic incumbent inertia has been the subject of many theories and studies in strategic management research on strategic decision-making. According to the Carnegie School, which builds on Cyert an March's behavioral theory of the firm (Cyert & March, 1963; Gavetti, Levinthal, & Ocasio, 2007), "the status quo has a particular claim on action, and movements away from the status quo will be triggered by a perception of performance failure (Gavetti, Levinthal, & Ocasio, 2007, p. 529)". Early work on managerial and organizational cognition speaks to how firms' interpretations can lead them to inertia, without addressing strategic inertia head-on, thereby pinpointing a number of factors, including the preference for a status quo, as concrete manifestations of resistance to change (e.g., Isabella, 1990; Meyer, Brooks, & Goes, 1990). Resistance to change is thereby conceptualized as an

inherent element of cognitive transition during change. More recently, Gilbert (2005) identified two unique determinants of strategic incumbent inertia, namely resource and routine rigidity, which both constrain strategic response to a changing environment. Interestingly, Gilbert also hints at the fact that the actions necessary to engage in strategic change and rethink the use of resources and routines are contingent on decision-makers' cognitive interpretations. Later studies echo such claims, stating that decision-makers' cognitive understanding of their firm's resources affect whether and which directions of resource renewal are pursued (e.g., Danneels, 2011; Tripsas & Gavetti, 2009).

This study relates the previously identified connection between managerial cognition and incumbent inertia (e.g. Barr & Huff, 1997; Barr et al., 1992; Kaplan, 2011a; Nadkarni & Barr, 2008) to other areas of conceptual and substantive inquiry. Some themes in our study have been explicitly related to the development of incumbent cognition in the past (e.g., legitimacy, capability development, absorptive capacity). However, other aspects have heretofore not been considered part of theory on incumbent inertia (e.g., framing). As suggested by Gioia et al. (2013), through the development of a theoretical framework we attempted to weave together the concepts we identified to make the relational dynamics among these concepts more transparent.

Our primary contribution relates to the theoretical insights offered by this study regarding the role of the evolutionary process of framing in relation to cognitive inertia. As this study has a longitudinal focus, it depicts the evolutionary process of different types of framing practices in the context of disruptive change and sheds light on incumbents' differing pace at which they articulate new cognitive frames and develop absorptive capacity in the face of strategic change. Thus, this study adds to a recent stream of research that considers cognition as a dynamic process of meaning construction, whereby meaning is gradually constructed via framing (Kaplan, 2008b; Sonenshein, 2010). As a result, by exploring framing practices and their steering nature with regards to meaning construction, we add to the body of empirical studies on the impact of managerial cognition on strategic change, thereby examining in great detail media groups' evolving framing of strategic change. Identifying the dynamics underlying framing in the context of disruptive change allows to explain why certain incumbents remain trapped in their cognitive understandings while others are moving forward more rapidly.

As a result of this approach, a second major contribution consists of depicting framing practices as a vital strategic instrument. Recent work on strategic framing and framing contests in both

inter-organizational and intra-organizational (i.e. industry) contexts (Gurses & Ozcan, 2015; Kaplan, 2008b) stresses the role of framing as essential in strategy. Our study provides a rich understanding of different types of framing practices, explaining *how* framing of strategic change can reinforce or attenuate cognitive inertia and taking into account the recursive and reciprocal relation between cognition and language. As such, we pinpoint the role of language in strategic (change) processes (Balogun et al., 2014; Kaplan, 2008b, 2011b; Sonenshein, 2010; Vaara & Tienari, 2008). Recent work on language, in particular public language, as a strategic tool has asked for more work on different language forms to extend understanding of why language matters in strategy (Goa, Yu, & Cannella, 2015). Specifically, Goa et al. launched a call for more research on the role of framing in competitive settings. By focusing on the evolutionary process of framing and its strategic role with regards to the potential articulation of new cognitive frames, we contribute to the growing body of studies that relates strategy and language.

Finally, as a third major contribution we respond to a call in strategic management literature for more research on the microfoundations of cognitive frames (Kaplan, 2011a). By examining the themes (legitimacy, experimentation, etc.) and dimensions (interpretation, adaptation, integration) characterizing decision-makers' framing practices, we gain insights on a micro-level into the themes and dimensions that correspondingly characterize decision-makers' articulation and presentation of novel cognitive frames and the development of absorptive capacity. For instance, the evolution from stack framing practices to blend framing practices and the corresponding shift in decision-makers' focus from differentiation between print and digital to complementarity of print and digital, mirror micro-level dynamics characterizing decision-makers' development of new cognitive frames. Hence, our insights on the evolutionary process of framing reflect and mirror the micro-level process of how new cognitive frames but also absorptive capacity develop in the context of disruptive change.

3.5.2. Implications for practice

In terms of the implications of our study for practice, our focus on the evolutionary process of framing change offers insights to practitioners on multiple levels. As such, our in-depth exploration of framing practices used by incumbents in a context of disruptive change enables practitioners to better understand and be aware of the framing process decision-makers go

through as they attempt to make sense of change. Our research allows them to understand how framing evolves and how their discourse conveys their understanding of the change at hand.

If we focus on the strategic management of digitization, which is an on-going evolution in many industries, our study highlights the importance of engaging in different types of framing practices to avoid or overcome cognitive inertia. For instance, by discursively engaging in opportunity framing, search framing practices and blend framing practices, practitioners might be more inclined to analyze and approach digitization within their industry from a new angle. Engaging in these discursive framing practices, cognitive changes ought to be instigated more forcefully than if practitioners solely focus on threat framing, fit framing practices and stack framing practices (although these types of framing practices also have their own value in regard to adequately dealing with disruptive change).

Contrary to decision-makers' initial beliefs, readers were willing to pay for digital news offerings, business models based solely on advertising income did not fare well, and new technologies (e.g., the iPad) did not only represent threats to existing business models but also offered novel pathways to provide digital news. Thus, digitization required incumbent decision-makers to change their conceptualization of such disruptive change. Our theoretical framework points to the relevance of employing a variety of framing practices to overcome cognitive inertia: the routes we identify with regards to the process of framing point to different paths practitioners can engage in when facing and framing disruptive change.

3.5.3. Future research

Like any theoretical framework intended to capture the complexity of a strategic response process, the model we present contains elements that need further exploration. First, research is needed regarding the boundary conditions related to the evolutionary process of framing to further strengthen our findings on the occurrence of cognitive inertia. While the data show that the evolutionary process of framing is a powerful concept to explain firm response to disruptive change, further research needs to be conducted on how and why some firms are more likely than others to employ specific framing practices related to the development of cognitive inertia. Do decision-maker characteristics or firm characteristics matter when it comes to selecting specific framing practices over others? Defining boundary conditions with regards to our theoretical model on framing change, ought to engender additional theoretical insights regarding the complexity related to strategic response processes.

Second, our model points to the existence of different routes in which decision-makers can engage throughout such a framing process. Additional in-depth research into these specific routes ought to enrich our grounded framework. When are decision-makers more inclined to immediately engage in search framing practices, and in what circumstances do they first engage in fit framing practices to then reframe to search framing processes? What are barriers that might hinder decision-makers to take the shortest route in the process of reframing? Tackling such fine-grained questions ought to generate novel input which could again strengthen our initial framework.

Third, we observe that at specific points during a framing process, decision-makers radically engage in reframing processes, for instance by shifting from fit framing practices to search framing practices or by moving from stack framing practices to blend framing practices. Important questions remain regarding the instigation of such reframing, specifically in terms of what factors motivate decision-makers to reframe. For instance, why was Publisher slower to move to blend framing practices? Researching such antecedents of reframing requires an in-depth study of what events, conversations, communications, competitive dynamics, industry evolutions, etc. might have impacted decision-makers' willingness to reconsider their engagement in specific framing practices and, hence, reframe.

Finally, further research ought to focus on the evolutionary process of framing and the occurrence of cognitive inertia in different industries. While choosing digitization in the newspaper industry as a research context helped specify which framing practices are related to framing strategic change, this choice does impose boundary conditions on some of our findings. For example, in the media industry strategy text and talk are widespread, produced in large quantities, and convey an accurate rendering of decision-makers' framing of change. Decision-makers in other industries might not produce equally rich textual materials or their outward communication might be much more impacted by impression management motives. Moreover, the dynamics underlying the evolution of framing change might be different in industry contexts characterized by, for instance, high-velocity change, intense competition from newcomers, complex legal frameworks, etc. In any case, research focusing on different contexts should thus prove valuable to further ground and understand the evolutionary process of framing. However, in sum we hope that these initial findings will open new paths of inquiry and inform future research on framing, cognitive inertia and strategic change.

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CHAPTER 4

PROFESSIONAL IDENTITY TRANSFORMATION AND STRATEGIC INDUSTRY CHANGE

ABSTRACT

In industries disrupted by technological innovation, strategic industry change may affect professional identity. This study explains the dynamic processes through which the professional identity of a collective of professionals evolves and transforms. To study such continuous transformation of a shared identity we engaged in a longitudinal qualitative study of the discursive practices of professionals in the newspaper industry. Professionals renegotiated core elements constituting their identity by converting old understandings of professional identity into new ones and by expanding understandings of professional identity by means of new elements. As such, they engaged in dynamic identity reconstruction processes allowing the reconstruction of a coherent professional identity, congruent with the strategic industry change at hand. Our study reveals the importance of recursive interrelationships between identity, cognition and strategic industry change: professional identity defines professionals' cognitive interpretation of industry change, yet in parallel strategic industry change shapes professionals' cognitive understanding of their identity. We contribute by highlighting the value of intertwining professional identity theory and strategic change research to better understand industry dynamics.

Key words: Professions, Identity, Cognition, Change

4.1. INTRODUCTION

Technological innovations have caused disruptions in several key industries, including media, healthcare and financial industries (Benner & Tripsas, 2012; Bower & Christensen, 1995; Kaplan, 2008a; Tripsas & Gavetti, 2000). Such strategic industry changes have an important impact on professionals working in these industries and may affect their professional identity (Nelson & Irwin, 2014). Professional identity can be defined as professionals' cognitive understanding of what the central characteristics are of their profession, what it means to develop a life career and to share an identity with other professionals, based on what one does (Pratt, Rockmann, & Kaufmann, 2006, p.236). Such self-concept of individuals and collectives of individuals (e.g., groups, organizations, professions and industries), shapes, sustains and steers both the attitudes and behaviors of individuals and collectives of individuals (Patvardhan, Gioia, & Hamilton, 2015).

Strategic industry change induced by technological innovation, including digitization, may be particularly salient in industries populated by demarcated collectives of professionals. What characterizes professionals in such demarcated collectives is that they adhere to implicit and explicit norms including deontological guidelines and specifications, as is the case for architects, journalists, academics, and medical specialists. However, the specific processes by which the professional identity of a collective entity evolves and transforms when impacted by disruptive innovations remain understudied (Ibarra, 1999; Nelson & Irwin, 2014), in contrast to the well-researched change processes of individual identity (e.g., Dutton, Roberts, & Bednar, 2010; Ibarra & Petriglieri, 2010; Petriglieri, 2011), leader identity (e.g., DeRue & Ashford, 2010), and organizational identity (e.g., Fiol, 2002; Gioia, Patvardhan, Hamilton, & Corley, 2013b; Gioia & Thomas, 1996; Nag, Corley, & Gioia, 2007). This is all the more surprising when one takes into account that professional identity represents an important source of both individual and organizational identity (Ashford, George, & Blatt, 2007).

Additional research is needed to capture collective processes such as the transformation of a shared identity among members of a profession (Ashford et al., 2007). Therefore, whereas identity research has mainly focused on transformations in personal self-concepts (focussing on uniqueness) and interpersonal self-concepts (focussing on belongingness), our aim is to study transformation in collective self-concepts, thereby focussing on changes in shared values, goals and meanings related to a profession (Sedikides & Brewer, 2001). Specifically,

professional identity transformations in case of strategic industry change and the processes through which changes are initiated in professionals' cognitive understanding of their identity largely remain a black box. As identity shapes, sustains and steers professionals, studying such longitudinal transformation processes may help scholars explain the role of professional identity change in supporting (or opposing) strategic industry change in contexts characterized by the presence of a demarcated collective of professionals.

To gain insights into the processes characterising professional identity change in the context of strategic industry change, we employ a qualitative, grounded theory-based approach. Our study is set in the Belgian newspaper industry and spans a 15-year period, starting after the Internet bubble in 2000, during which journalists were confronted with the digitization of newsmaking. The newspaper and, by extension, media industry represents one of the earliest contexts that were rapidly and irrevocably impacted by the introduction of digital technologies. Digitization instigated strategic change, thereby prompting the development of new cognitive understandings of professional identity and, more generally, of options to navigate the changing industry. Importantly, cognitive understandings of social constructs such as collective identities must be communicated across such a collective (Pratt, 2003: 165). Therefore, to grasp the transformation of professionals' understanding of their professional identity and the processes characterising such transformation in the context of strategic industry change, we engage in a longitudinal study of writings and conversations of journalists, that is journalists' discursive practices.

Our findings suggest that as the newspaper industry engaged in strategic change, professionals' established cognitive understanding of their professional identity was renegotiated. Confronted by a changing industry context, discrepancies arose between professionals' existing understanding of what one does and the new requirements for newsmaking in a digitized context, thus leaving professionals in a state of identity ambiguity (Corley & Gioia, 2004). Subsequently, professionals renegotiated core elements constituting their identity, by converting old understandings of professional identity into new ones (i.e. conversion process) and by expanding understandings of professional identity by means of new elements (i.e. expansion process). As such, they engaged in specific identity reconstruction processes allowing the reconstruction of a coherent professional identity, congruent with the strategic industry change at hand.

Our main contribution is that by focussing explicitly on professional identity we respond to a recent call to reinvigorate theory on professions and professionals (Anteby, Chan, & DiBenigno, 2016). As Anteby et al. (2016:6) acknowledge, management and organization theory lack insights in professional dynamics, which could ultimately lead to misinterpretations of organizational and industry dynamics. Hence, we study strategic industry change as it is mirrored by professional identity transformation to remedy this concern. A principal revelation of our study then is the importance of recursive interrelationships between identity, cognition and strategic industry change: professional identity defines professionals' cognitive understanding of industry changes and their consequences, while strategic industry change shapes professionals' cognitive understanding of their identity. By delving deeper into the processes through which professional identity evolves and transforms, we present a grounded model on the processing of strategic industry change and its consequences. As such, we underline the extensive potential of intertwining identity theory and strategic management research.

Second, we underwrite that identity should be referred to as a process (Kreiner, Hollensbe, Sheep, Smith, & Kataria, 2015; Schultz, Maguire, Langley, & Tsoukas, 2012) and, more specifically, as a social process (DeRue & Ashford, 2010; Pratt, 2003). Professional identity conceptualization and changes in such conceptualization originate beyond the individual, i.e. in the social interaction of the members of a collective. Specifically, we conceptualize professional identity as an ongoing collective process of meaning (re)construction which is both reflected and shaped by the discursive practices of a collective of individuals. We thus contribute to identity theory by pinpointing the essential role of discursive practices in the collective-level process of professional identity transformation.

Finally, by examining the discursive practices employed by professionals of a demarcated collective in a context of strategic industry change, we contribute to a growing body of management studies which focus on the role of language when examining strategy-related phenomena (Balogun, Jacobs, Jarzabkowski, Mantere, & Vaara, 2014; Kaplan, 2008b, 2011; Vaara & Tienari, 2008). Specifically, we adopt a discursive approach to study strategic industry change mirrored by professionals' cognitive understanding of identity change. Our emergent theoretical model elaborates theoretical links not previously addressed in literature: previous studies on professional identity and strategic industry change have not taken into account the role of specific discursive practices in the adaptation of professionals' cognitive understanding

of their professional identity and the transformation of such identity in line with industry change.

4.2. THEORETICAL BACKGROUND

4.2.1. Professional identity and strategic industry change

Building upon identity change research at both the individual, interrelational and organizational level, nowadays identity theory is increasingly used to study identity-related processes at the collective level (Fiol & O'Connor, 2002; Fiol & Romanelli, 2012; Gioia et al., 2013b; Patvardhan et al., 2015; Pratt, 2003). Identity theory's increasing focus on collective-level identity processes allows strategic management scholars to study industry-wide phenomena such as strategic industry change (Gioia et al., 2013b). Yet despite initial studies important questions remain regarding the processes by which collective-level identities form and transform (Patvardhan et al., 2015). Therefore, in this paper we adopt a collective-level perspective on professional identity transformation in the context of strategic industry change with the intent of encompassing aspects related to both identity theory and strategic industry change.

The central concept of identity defines how individuals and collectives of individuals make sense of and 'enact' their environment (Weick, 1995). Identity can be defined as the central, distinctive, and continuous characteristics of an entity, thus describing the essence of an entity (Ashforth, Rogers, & Corley, 2011). Fiol underlines that different identity levels reciprocally influence each other: "an organization's identity creates a context for individual self-conceptions and individual-level identity beliefs are the building blocks of collective organizational identities (Fiol, 2002: 653)". Consequently, strategic industry change may imply identity transformation at multiple levels (Gioia et al., 2013b; Nelson & Irwin, 2014; Patvardhan et al., 2015).

In particular, strategic industry change may instigate professional identity transformation. The concept of professional identity refers to the understanding of professionals, such as journalists, of their occupation in terms of what the central characteristics are of their profession and what it means to develop a life career and to share an identity with other professionals, based on what one does (Pratt et al., 2006). As stated, professional identity is a source of individual

identity and as such an integral part of each individual professional's identity. It specifies individuals' self-definition as a member of a specific collective, i.e. a profession (Ibarra, 1999). As such, professional identity refers to "the relatively stable and enduring constellation of attributes, beliefs, values, motives, and experiences in terms of which people define themselves in a professional role (Ibarra, 1999: 764-765)".

Yet professional identity exists beyond the mere individual. Collective identities reside within groups of individuals and as such exist at a higher level of analysis (Pratt, 2003: 168). Especially in industries where members form a demarcated collective of professionals, the professional identity is negotiated at the level of the collective of professionals. Implicit in the concept of professional identity is then the notion of shared cognitions, i.e. socially constructed ideas and beliefs about the central character of the collective identity (Pratt, 2003). As such, professionals hold similar perceptions about their occupation and as Pratt et al. (2006) point out in their work on professional identity, professions are delineated by unique sets of work knowledge and skills.

In disrupted industries where members are part of a demarcated collective of professionals, professional identity transformation refers to changes in professionals' understanding of their occupation (Pratt et al., 2006). However, the specific collective-level processes by which professional identity evolves and transforms in the context of strategic industry change remain largely unexplored in strategy research. An interesting contribution is Nelson and Irwin's (2014) study of librarians and the introduction of internet search. Nelson and Irwin (2014) show how interpretations of technology are conditioned by librarians' professional identity and how such interpretations evolve and in turn impact professional identity. However, how such transformation processes contribute to strategic industry change itself is a question that remains to be studied. Therefore, our study explores the dynamics underlying these transformation processes and delves deeper into the transformative processes associated with identity change in light of technological innovation.

4.2.2. Identity transformation and language

Previous studies point out that even if identification processes are critical, they can be challenging in times of change (Clark, Gioia, Ketchen, & Thomas, 2010; Corley & Gioia, 2004; Elstak, Bhatt, Van Riel, Pratt, & Berens, 2015; Gioia et al., 2013b). The need to resolve

potential ambiguity and uncertainty instigated by the change at hand, shapes and directs identification processes (Clark et al., 2010; Corley & Gioia, 2004; Elstak et al., 2015).

In her work on identity transformation, Fiol (2002) draws from theories of rhetoric to identify language markers that convey identification, de-identification and re-identification. Identity change processes evolve around framing and reframing the definitions of who we are and who we can become (Fiol & O'Connor, 2002). As such, she highlights the role of language in signalling and shaping identity: language reflects identification but also shapes the process of identification and changing identification. Interestingly, the greater identification, the less receptive individuals are to change, whereas de-identification opens up a pathway to temporary losses of meaning, ambiguity and ultimately new possibilities (Fiol, 2002). In that respect, Gioia and Corley (2004) introduce the concept of identity ambiguity, the collective state wherein organization members find themselves without a good sense of who they are during or after a change, resulting in the need to redefine themselves as an organization, including its strategic direction (Corley & Gioia, 2004, p.178).

In a similar vein, Ashforth et al. (2011) relate identity transformation and language by pointing out the use of discursive resources to frame and convey identity, i.e. the concepts, expressions, or other linguistic devices that, when deployed in talk, present explanations for past and/or future activity and consequently guide interpretations and actions. Discursive resources are used to delineate what a collective and its members represent or hope to represent, thus supporting legitimacy claims, yet also conveying good faith aspirations and hopes for the future (Ashforth et al., 2011: 6). However, Asforth et al. (2011) also underline the use of discourse to reinforce discrepant rather than convergent identity claims: strategic identity discrepancies may be cultivated to accommodate differentiation and potential change.

Fiol (2002) underlines how the process of changing self-conceptions relies on the use of labels. Gioia and Corley (2004) conceptualize identity labels as the symbolic expressions of how members collectively define who they are as an entity. By adding new meanings to existing identity labels, identity changes can be induced (Corley & Gioia, 2004; Gioia, Schultz, & Corley, 2000). As Gioia et al. (2013b, p.126) mention, in such cases the labels are stable, but their meanings are malleable, thus leading to the appearance of stability even as identity evolves. In other cases, meaning remains, yet labels are altered, leading to the appearance of change.

What these studies have in common, is that they underline that identity change has a dual nature as identity is a matter of both language and meaning (Gioia et al., 2000). Yet the specific discursive micro-processes underlying identification, de-identification and re-identification sequences (Fiol, 2002) and 'label change versus meaning change' (Corley & Gioia, 2004) in the context of professional identity construction remain underspecified in strategic management research.

The purpose of this article is to build and enrich theory on professional identity change, thereby conceptualizing such change as a process of meaning construction involving both discursive practices (i.e. language) and cognition (i.e. meaning). These concepts are separate, yet reciprocally and recursively interconnected: language makes active use of existing cognitive frames, while cognition is renewed through extensions and combinations made in language (Cornelissen & Werner, 2014).

We define discursive practices as the attempts through language to engage in meaning construction and present courses of actions related to the strategic industry change at hand in a specific manner (Cornelissen & Werner, 2014). Practices act as linchpins connecting concepts (Nag et al., 2007). As such, discursive practices act as linchpins connecting identity and cognition: identity influences cognition as it supports specific interpretations over others, and cognition influences identity by providing cognitive frames to support or question its manifestation.

Vaara and Whittington (2012) point out that discursive practices employed by actors can have significant but hidden effects. In strategy research, there has been an increase in the use of discursive approaches, as the analysis of talk and text offers insights into the role of various discursive practices in constructing or influencing strategic issues or understandings: discursive practices prioritize specific interests, enable iteration and adaptation of strategy, include or exclude topics, legitimate or delegitimize issues, or change conceptualizations of collectives and its members (Vaara & Whittington, 2012). For instance, work on framing contests illustrates this growing concern for talk and text and the interest in discursive practices to unveil underlying change mechanisms (Eggers & Kaplan, 2009; Gurses & Ozcan, 2015; Kaplan, 2008b). As the micro-level processes underlying professional identity transformation remain understudied, studying such discursive practices ought to shed light on the specific collective-level processes that underlie identity transformation and, ultimately, strategic industry change.

4.3. METHOD

4.3.1. Research design

Our objective was to engage in theory elaboration on professional identity transformation dynamics using an interpretative, grounded theory-based research approach (Gioia, Corley, & Hamilton, 2013a; Glaser & Strauss, 1967; Locke, 2001). We sought to develop new concepts, refine existing categories and relationships, and bring qualitative rigor to our study by following the approach described by Gioia et al. (2013a). Specifically, we opted for an interpretative study as we were interested in understanding identity transformation as experienced by the professionals themselves.

To study, build and elaborate theory on a dynamic phenomenon such as professional identity transformation, we opted for a longitudinal examination of a context that qualifies as "an extreme situation" (Eisenhardt, 1989). Extreme situations are characterised by the fact that the dynamics under study are very visible, thus facilitating theory building and elaboration (Eisenhardt, 1989; Pratt et al., 2006). Influenced heavily by digitization occurring at the core of the newspaper industry, the swiftly evolving journalistic profession presented an excellent opportunity to explore processes related to professional identity transformation.

Several reasons account for this. First, we sought to situate our longitudinal study at the intersection of a profession with a clear identity, in this case journalism, and strategic industry change driven by technological innovation. The impact of digitization in the newsmaking industry was long-lasting and profound, thus resulting in impactful changes in professional identity. Specifically, we focus on professionals and their identity transformation in the Dutch-speaking part of the Belgian newspaper industry, as over the years professionals within this geographical area faced similar challenges related to digitization (legal framework, employment possibilities linked to language constraints, waves of lay-offs, adoption timing of mobile technologies, etc.), allowing us to take into account context-specific elements related to professional identity transformation. Second, because the core business in the industry consists of publishing, over the years professionals consistently published a variety of elaborate textual sources about their profession and their media, and regularly expressed their opinions through a variety of channels (trade journals, editorials, columns, press articles, interviews, etc.). This enabled the collection of a large and varied number of texts reflecting professionals'

discursive practices in relation to their profession and their professional identity. Third, focusing on professionals in a mature industry offered the advantage that the cognitive understanding of professionals' identity was well-developed (Barr, 1998). For decades, the Belgian newspaper industry proved to be stable and profitable, thus fostering a clear professional identity. The focal period of this study spans 15 years during which newsmakers were confronted with the industry's transformation from printed newspapers to digital news offerings. Changes in professionals' discursive practices reflecting changes in professional identity were easily perceptible and abundantly present. As such, our research context appeared promising to examine the dynamics related to how professional identity shapes and is shaped by strategic industry change.

4.3.2. Empirical setting

With the advent of digital technologies in the late 1990s, professional journalists working in the printed newspaper industry became increasingly confronted with the concept of internet news. Internet news was mainly provided for free, mostly by foreign providers or small information technology players who were not linked to large print newsbrands and who relied on online advertising to obtain revenues. Such news was perceived as being something different, often of less value and less accurate in comparison to print journalism which was developed according to a strict deontological code. Yet journalists increasingly became aware that such news did attract many readers and could potentially displace the value and role of printed news made by professional journalists.

In the early- and mid-2000s, journalists at a number of Belgian newspaper titles started experimenting with digital news and developing their first websites. These first versions were very simple and static websites, resembling online archives of news content that had been published in print. Digital news content was provided for free as the idea was that online advertising would compensate for the loss in revenues resulting from declining print sales.

However, over the years it became clear that online advertisement would not provide the revenues the industry had hoped for. In the second half of the 2000's, different alternatives were put forward to cope with this lasting lack of revenues. Initially, newspaper brands were used to leverage the strengths and reliability of print news to digital news offerings. At a later stage, the concepts of customer orientation and customer service were introduced into the profession of newsmaking. All in all, internet increasingly became recognized as a medium

with its own strengths and added-value: digital news steadily became as valuable as printed news. It became combined and later on truly integrated with printed offerings. As such, as of the mid- and late-2000s, newssites transformed into sophisticated websites, providing up-to-date news content via interactive applications and specifically developed formats that complemented printed news offerings.

In parallel, professional journalists' work content and processes increasingly entailed the development of specific online news pieces for websites. They were increasingly expected to work for both print and digital channels or to function in integrated newsrooms, facing constant deadlines. As a result, online newsmaking capabilities became key in the journalistic profession. Accompanying such changes, newspapers which had hesitated to demand payment for digital journalism, slowly started installing paywalls around parts of their digital content.

By early 2010, the advent of the iPad triggered the growing embracement by journalists of all kinds of technologies (mobile technologies, big data, etc.). Digital capabilities going beyond mere newsmaking abilities became more important to the journalistic profession. Journalists needed to do more than write digital news, manage online content, or select information provided by clipping services, they also used technology to enrich news (via video, audio, graphics, etc.), to engage in news forms of journalism (datajournalism, videojournalism, etc.) and to approach readers in a personalized manner based on insights from user data. However, while the iPad and additional technologies proved themselves to be important instruments in both the move towards increasing digital readership and the facilitation of journalism as a profession, it again became clear that digital subscriptions would not compensate the loss in print revenues.

Importantly, in the Belgian market the most important digital news players had always been existing media groups holding large print newspaper titles. As of 2013, a significantly increasing number of purely digital news initiatives came about, initiated by entrepreneurial journalists searching for new avenues to bring their journalistic work to interested (niche-) audiences, using different types of business models (e.g. crowdfunding) to sustain their operations. These entrepreneurial journalists positioned themselves in specific roles (content provider, service provider, platform creator, etc.) in a larger digital news ecology. They were motivated by the wish to provide (niche-) news that was either fully automated by technology based on data about reader preferences or, in contrast, less impacted by commercial motives and closely adhering to traditional journalistic values. In the latter case, professionalism was

stressed and even elevated to the extent that specific professional journalists became brands in their own right, providing original work which adhered diligently to the understanding of journalism as the 4th power of democracy.

4.3.3. Data collection

The aim of our data gathering was to assemble an extensive collection of evidence sources through which we could longitudinally study the discursive practices of members of the journalistic profession in the Belgian newspaper industry. As a collective, these professionals produced numerous accounts of 'text and talk' (Barr & Huff, 1997). Specifically, we systematically selected a variety of texts for the period 2000-2015 on the subject of digitization in the newspaper industry, containing either direct quotes from professionals or written accounts by professionals. These texts include: (1) issues of the field's main professional journal, written by and for professional journalists, containing detailed writings on a large variety of subjects related to evolving journalistic practices (2) press articles, collected through exhaustive searches of databases such as Factiva and GoPress, which contain direct quotes from professional newsmakers in the newspaper industry; (3) columns, editorials or essays written by professionals and published in newspapers or magazines; (4) interviews with journalists in printed and audiovisual media (in aired debates, in news bulletins, in a documentary, transcribed at verbatim) ; (5) media groups' elaborate annual reports containing interviews with direct quotes and written accounts from professional newsmakers, (6) records from industry-wide conferences, including speeches and presentations by newsmakers. We relied on these texts as the main data source to study discursive practices, as these represent real-time renderings of professionals' opinions, thoughts and strategies (see Table 12 for an overview). These texts represent the collective forum through which professional identity was developed, negotiated and made explicit by and to all members of the profession. Via these texts ideas and understandings were explicated, discussed, debated, launched, retracted, criticized, etc. across the professional scene. Finally, we gathered governmental reports which allowed us to understand the developments in the newspaper industry in general. These consist of reports covering industry structure and media concentration.

Table 12 Overview data collection sources

Data Source	Items	Use in Analysis
Professional journal (The Journalist) (12 to 20 pages per issue)	187 issues	Newsmakers' writings capture their understanding of digitization's impact on journalism as a profession (especially in terms of journalistic deontology, work processes and capabilities) and general evolutions in journalism.
Press articles, interviews, columns, editorials and essays (1/4 to 5 pages per item, selected from 5 newspapers and 2 business magazines)	825 items	Newsmakers' direct quotes and writings capture their understanding of digitization's impact on journalism as a profession (especially in terms of journalistic deontology, quality news content and news ecology) and general evolutions in journalism.
Annual reports (> 1200 pages)**	23*	Newsmakers' direct quotes and writings capture their understanding of industry change and the appropriate options to engage in strategic change, to remain journalistically relevant, and to be competitive in a digital context.
Reports and records from 3 industry-wide conferences including speeches, discussion overviews, workshop summaries, presentations, etc. (118 pages)	12	Newsmakers' accounts capture their understanding of pain points in the industry's transition towards digital news offerings and its impact on journalism. Accounts also highlight newsmakers' understandings about potentially fruitful opportunities for future (digital) journalism.
Governmental reports on industry structure and media concentration (120 to 299 pages per item)	6	Chronological reconstruction of industry developments, the transition towards digital news offerings and its impact on journalism.

* Annual reports were only selected if a report contained elaborate textual material (letters to shareholders, opinion pieces, etc.). Reports containing solely financial results were excluded.
**As of 2011, certain annual reports were compiled as a collection of webpages and audiovisual fragments, preventing an exact page count.

Prior studies in strategic management have utilized written or verbal statements as indirect indicators of cognition (Barr & Huff, 1997; Barr, Stimpert, & Huff, 1992; Kaplan, 2008b, 2011; Nadkarni & Barr, 2008). As it is typical for the printed media industry and its professionals to produce numerous writings on a variety of topics, including digitization, and to share thoughts and opinions in order to contribute to societal debates regarding these topics, we argue that these texts consist of adequate renderings of professionals' cognitive understandings about the impact of digitization on their professional identity. Following Barr and Huff (1997), we argue that such texts and talk constitute a real-time forum in which cognitive frames are articulated.

Of particular relevance for our study are the accounts in The Journalist, the most widely read professional journal in the Belgian newspaper industry issued by the field's official association of professional journalists. Accounts are written by and for professionals in the field of journalism. As Nelson and Irwin (2014: 897) explain regarding the use of professional journals in discursive practices studies, "although any one article may reflect the opinion of its individual author only, the corpus together is indicative of the field".

4.3.4. Data analysis

Because we argue that existing theory falls short in explaining the processes underlying professional identity transformation, we adopted an inductive approach to identify and to understand how professionals' discursive practices related to professional identity unfold over time in the context of strategic industry change. In an iterative fashion, we engaged in numerous cycles of confrontation between the qualitative data, emerging theoretical arguments and existing theory (Locke, 2001; Miles & Huberman, 1984; Strauss & Corbin, 1998). Each iteration directed us to additional lenses for data analysis or supplementary theoretical constructs. Our analysis entailed four major steps.

Step 1: Creating first-order codes. We analyzed the data using open coding (Strauss & Corbin, 1998), thereby selecting, categorizing and labeling direct quotes and passages of written accounts (Patvardhan et al., 2015). We broadly sought out quotes or passages representing fundamental ideas, lines of thought or concepts related to digitization and its consequences for the journalistic profession. To preserve the quotes' and passages' meaning as assigned by the professionals they were labelled 'in vivo' or as close as possible to professionals' own language. Following an interpretative approach, we continuously made sure to capture understandings of digitization as interpreted by professionals themselves, thus capturing our

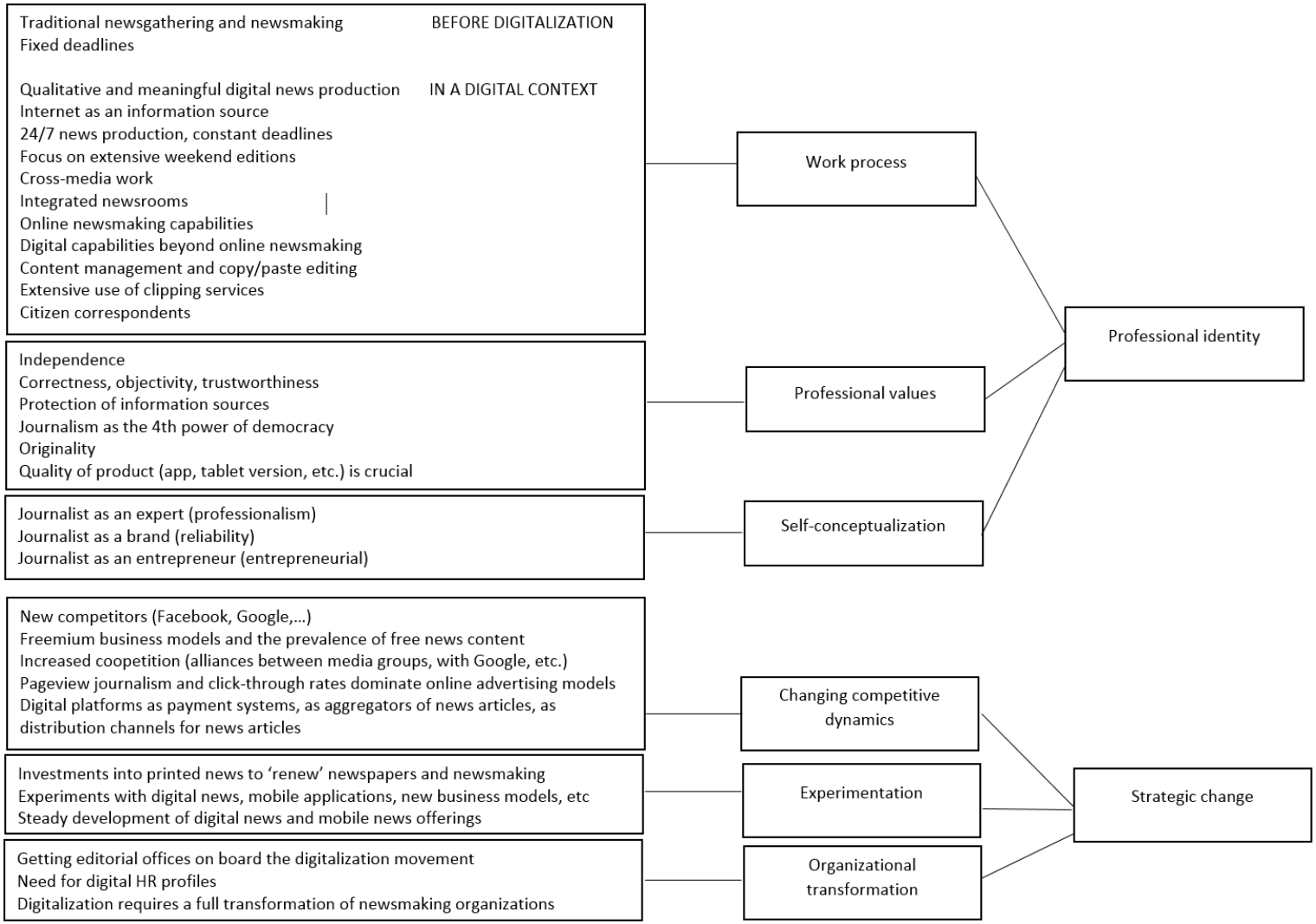
informants' views of the world (Pratt et al., 2006). Quotes and passages drawing on common understandings were assembled into provisional categories and first-order codes ('cross-media work', 'redefinition of information sources', 'online newsmaking capabilities', 'authenticity', etc.), which were continuously reassessed and supplemented as we worked through the data.

Step 2: Creating theoretical categories. In this second step of our analysis, we moved from open to axial coding, consolidating first-order codes into second-order categories ('professional values', 'experimentation', 'identity integrity discrepancies', etc.) (Locke, 2001; Strauss & Corbin, 1998). We labelled these themes using researcher-centric codes, either developed ourselves or retracted from existing theory, to reflect their more theoretical and abstract nature (Strauss & Corbin, 1998). Of particular interest at this stage in our analysis were the first-order codes reflecting changes or novelties in professionals' discursive practices regarding their professional identity (e.g., 'redefinition of information sources', 'digital acceleration', 'hypertextuality'). We assembled these into two abstract second-order categories reflecting two distinct types of discursive change, which we defined as 'conversion process' and 'expansion process'.

Step 3: Creating aggregate dimensions. Next, we searched for aggregate dimensions underlying the theoretical categories we identified, engaging in theoretical coding (Glaser & Strauss, 1967). Certain dimensions embedded into our framework clearly refer to concepts in existing theory, such as identity ambiguity (Corley & Gioia, 2004) and professional identity (Pratt et al., 2006). Others draw more closely onto the specific relations among categories in our research context, such as identity reconstruction which entails the previously identified conversion and expansion processes. Our data structure in Figure 5 illustrates the relations between our first-order codes, second-order categories and aggregate dimensions.

Step 4: Tracing dynamics. We arrived at a grounded theoretical model by focusing on the dynamic interactions among the codes, theoretical categories and dimensions in our framework, thereby integrating static and detached codes, categories and dimensions into a dynamic process model. All first-order codes were chronologically traced to analyze at which point in time codes were introduced and to what other first-order codes and second-order categories they could potentially be linked (see Table 13).

Figure 5 Data structure (first-order codes, categories and aggregate dimensions)



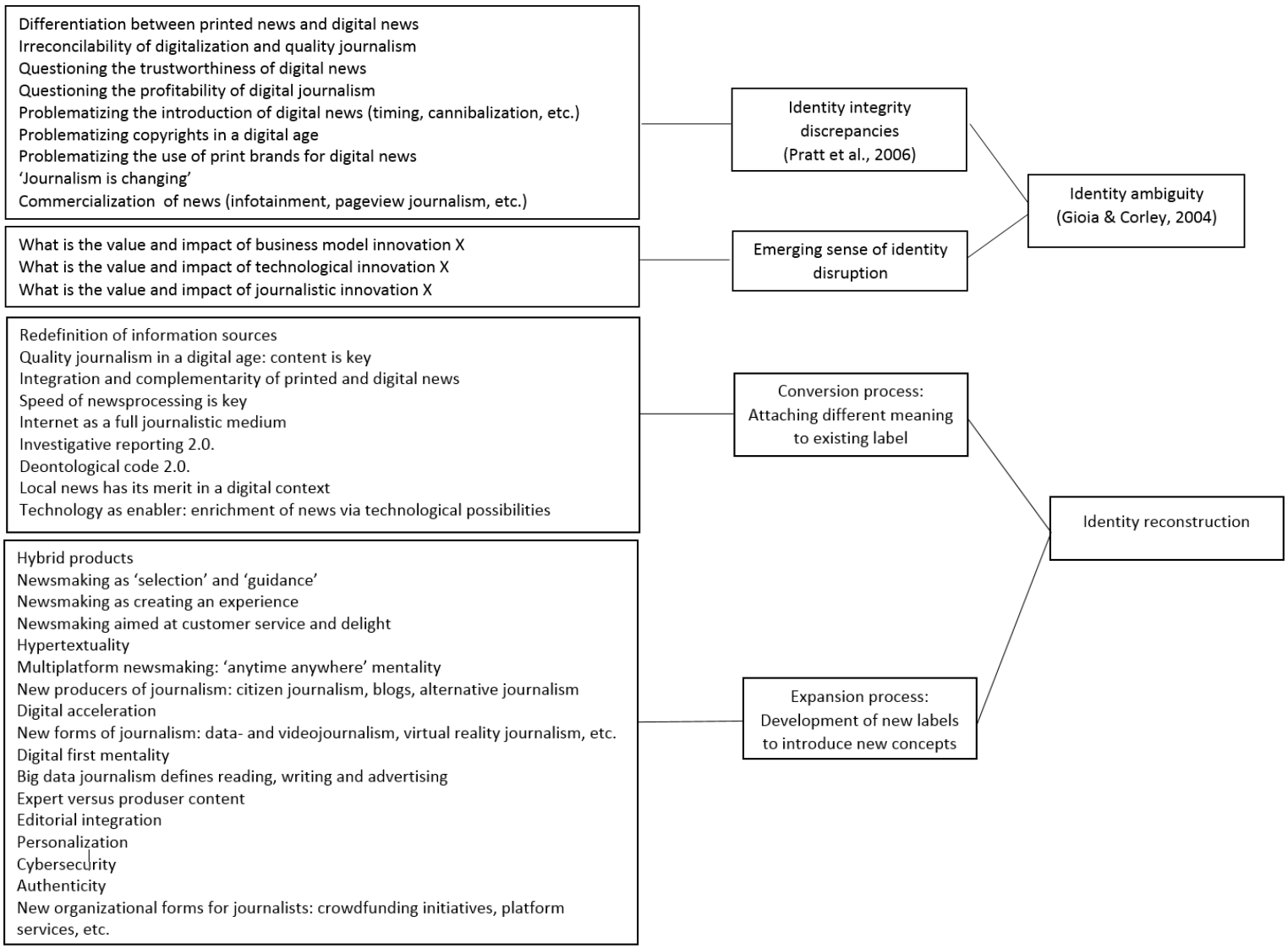

Differentiation between printed news and digital news
Irreconcilability of digitalization and quality journalism
Questioning the trustworthiness of digital news
Questioning the profitability of digital journalism
Problematizing the introduction of digital news (timing, cannibalization, etc.)
Problematizing copyrights in a digital age
Problematizing the use of print brands for digital news
'Journalism is changing'
Commercialization of news (infotainment, pageview journalism, etc.)
What is the value and impact of business model innovation X
What is the value and impact of technological innovation X
What is the value and impact of journalistic innovation X
Redefinition of information sources
Quality journalism in a digital age: content is key
Integration and complementarity of printed and digital news
Speed of newsprocessing is key
Internet as a full journalistic medium
Investigative reporting 2.0.
Deontological code 2.0.
Local news has its merit in a digital context
Technology as enabler: enrichment of news via technological possibilities
Hybrid products
Newsmaking as 'selection' and 'guidance'
Newsmaking as creating an experience
Newsmaking aimed at customer service and delight
Hypertextuality
Multiplatform newsmaking: 'anytime anywhere' mentality
New producers of journalism: citizen journalism, blogs, alternative journalism
Digital acceleration
New forms of journalism: data- and videojournalism, virtual reality journalism, etc.
Digital first mentality
Big data journalism defines reading, writing and advertising
Expert versus produser content
Editorial integration
Personalization
Cybersecurity
Authenticity
New organizational forms for journalists: crowdfunding initiatives, platform services, etc.
Identity integrity discrepancies (Pratt et al., 2006)
Emerging sense of identity disruption
Identity ambiguity (Gioia & Corley, 2004)
Conversion process: Attaching different meaning to existing label
Expansion process: Development of new labels to introduce new concepts
Identity reconstruction

Table 13 Chronological mapping of first-order codes

	Old-school	*Pioneer*	*Conciliator*	*Integrator*	*Technologist*	*Entrepreneur*
1st and 2nd order codes	*>2000*	*2002-2006*	*>2005*	*>2007*	*>2010*	*>2013*
Work process						
Traditional newsmaking and newsgathering	X					
Fixed deadlines	X					
Qualitative and meaningful digital news production	X	X	X	X	X	X
Internet as an information source	X	X	X	X	X	X
24/7 news production, constant deadlines				X	X	X
Focus on extensive weekend editions				X	X	
Cross-media work			X	X	X	
Integrated newsrooms			X	X	X	
Online newsmaking capabilities			X	X	X	X
Digital capabilities beyond online newsmaking					X	X
Content management and copy/paste editing					X	
Extensive use of clipping services					X	
Citizen correspondents						X
Professional values						
Independence	X			X	X	X
Correctness, objectivity & trustworthiness	X	X	X	X	X	X
Protection of information sources				X	X	X
Journalism as 4th power of democracy	X			X	X	X
Originality					X	X
Quality of product (app, tablet version,…) is crucial					X	X
Self-conceptualization						
Journalist as an expert (professionalism)	X	X	X	X	X	X
Journalist as a brand						X
Journalist as an entrepreneur (entrepreneurial)						X
Identity integrity discrepancies						
Differentiation between printed news and digital news	X	X	X			
Irreconcilability of digitization and quality journalism	X	X	X			
Questioning the trustworthiness of digital news	X	X	X			
Questioning the profitability of digital journalism	X	X	X	X	X	X
Problematizing the introduction of digital news (timing, cannibalization, etc.)	X	X	X	X		
Problematizing copyrights in a digital age	X	X	X	X		
Problematizing the use of print brands for digital news	X	X				
'Journalism is changing'					X	X
Commercialization of news (infotainment, pageview journalism, etc.)					X	X

Emerging sense of identity disruption						
What is the value/impact of business model innovation X		X	X	X	X	X
What is the value/impact of technological innovation X					X	X
What is the value/impact of journalistic innovation X					X	X
Conversion process						
Redefinition of information sources (databases, social media, online newsmedia, clipping services, etc.)		X	X	X	X	
Quality journalism in a digital age: content is key			X	X	X	X
Integration and complementarity of printed and digital news			X	X	X	
Speed of news processing is key				X	X	X
Internet as a full journalistic medium				X	X	X
Investigative reporting 2.0.				X	X	X
Deontological code 2.0.				X	X	X
Local news has its merit in a digital context					X	
Technology as enabler: enrichment of news via technological possibilities					X	X
Expansion process						
Hybrid products		X				
Newsmaking as ‘selection’ and ‘guidance’			X	X	X	X
Newsmaking as creating an experience			X	X	X	
Newsmaking aimed at customer service and delight			X	X	X	X
Hypertextuality			X			
Multiplatform newsmaking, ‘anytime anywhere’ mentality			X	X	X	X
New producers of journalism: citizen journalism, blogs, alternative journalism			X	X	X	X
Digital acceleration				X	X	X
New forms of journalism: datajournalism, virtual reality journalism, videojournalism, automated journalism, etc.					X	X
Digital first mentality					X	X
Big data journalism defines reading and writing					X	X
Expert versus produser content					X	X
Editorial integration					X	X
Personalization					X	X
Cybersecurity						X
Authenticity						X
New organizational forms for journalists: crowdfunding initiatives, platform services, etc.						X

This allowed us to distinguish six different time periods during which cognitive understandings of professional identity differed, as shown in Table 14. Importantly, these periods do not have clearly defined boundaries, yet are initiated by the introduction of adapted or new discursive rationales. As codes and combinations of codes appeared and disappeared in discursive practices, newsmakers' understandings of professional identity changed.

By looking specifically at overall new combinations of codes and categories in relation to the codes linked to conversion and expansion processes, we were able to assess how these codes fit into the time frames we identified. Hence, we were able to study the conversion and expansion processes in-depth and understand the discursive dynamics involved (e.g. a conversion process entails initiation through friction, label-meaning realignment and label renewal). Ultimately, from this analysis our dynamic process model on professional identity transformation emerged.

4.4. FINDINGS

Systematic transformations occurred in newsmakers' cognitive understanding of professional identity. Having chronologically mapped first-order codes, as shown in Table 13, we identified six time frames in our data. As illustrated in Table 14, these are each characterised by specific cognitive understandings of journalism in a digitized age, the impact of digitization, and professional identity. These systematic transformations in professional identity entail a move from old-school conceptualizations of journalism and pioneering attempts with digital technologies, over conciliator and integrator understandings of professional identity, to technologist and ultimately entrepreneurial conceptualizations of the profession. Ranging from minor to major in effect and involving inherently new cognitive understandings of journalism, digitization and identity, these transformations mirror the strategic industry change at hand.

More importantly, through our analysis we identified two types of discursive change processes, namely conversion and expansion processes, which were employed by professionals to discursively reconstruct a coherent professional identity, congruent with the strategic industry change. We found that these discursive change processes contribute to professionals' renegotiation of core elements constituting their identity by converting old understandings of professional identity into new ones and by expanding understandings of professional identity by means of new elements. In what follows, we proceed with an in-depth examination of the

Table 14 Time frames reflecting systematic transformations in professional identity

	Old-school	***Pioneer***	***Conciliator***	***Integrator***	***Technologist***	***Entrepreneur***
Approximate timeframe	Initiated in 2000	2002-2006	Initiated in 2005	Initiated in 2007	Initiated in 2010	Initiated 2013
Cognitive understanding of journalism	Journalism under threat	Hybrid news offerings	Cross-media news	Internet as a full medium	Beyond digital news	Journalism as an ecosystem
Cognitively grasping the impact of digitization	How will digitization disrupt the business?	How to develop a business model for digital news?	How can digital news offerings reinforce printed news?	How to integrate the best of both print and digital news?	How to create value for newsmaking with digital technology?	How to create a successful newsmaking operation?
Cognitive understanding of professional identity	Traditional journalist	Journalist as an explorer of digital possibilities	Journalist as a provider of cross-media content	Journalist as a guide, with an eye for customer delight	Journalist as a guide, enabled by technology	Journalist as an entrepreneur in a news ecosystem
Framing of digital news	Differential	Differential	Differential	Integrative	Integrative	Autonomous
New business models	Free digital news & online advertising models	Hybrid offerings	Brand development	Paywalls	Paywalls, aggregators & platforms	Crowdfunding & platforms

two discursive change processes related to identity reconstruction. Next, we broaden our framework to investigate the transformative dynamics underlying the occurrence of change in professional identity, in so doing elaborating upon the theoretical model resulting from our analysis.

4.4.1. Discursive change processes: Reconstruction through conversion

The definitions of journalism and news, what is means to be a journalist or newsmaker, and what it means as a professional collective to produce news in a digital age, emerged as essential elements in professionals' discursive practices related to digitization. Focussing on newsmakers' statements reflecting awareness of changes in newsmaking, our data suggests that professionals converted old understandings related to newsmaking, into new understandings. In what follows, we unfold such conversion process by means of a central example in newsmakers' cognitive understanding of their professional identity. Additional illustrations of conversion processes are presented in Table 15.

One specific element emerged as central to the cognitive understanding of the professional identity of newsmakers: the professional ability to produce quality journalism, i.e. qualitative and meaningful news content according to the deontological code of journalism. Prior to digitization, for journalists the concept of quality journalism represented a straightforward label with aligned meaning. This label was incorporated into their professional identity as a given. However, impacted by digitization, quality journalism became a less straightforwardly understood concept. *Ambiguity based on identity integrity discrepancies* appeared in professionals' discursive practices related to the concept. Identity integrity discrepancies can be defined as experienced discrepancies in the consistency between the existing professional identity and actual work content and processes (Pratt et al., 2006). Printed and digital news were treated as fundamentally different concepts, professionals thus engaged in differential framing. Consequently, quality journalism and the attributes linked to the label were conceptualized as irreconcilable with digitization and digital revenue models. For many journalists the label quality journalism could not be reconciled with the concepts of free digital news offerings supported by advertising returns, nor did it seem realistic to use the high-quality print brands for digital products, since these brands represented the values associated with

qualitative news offerings. Existing cognitive understandings of the meaning of quality journalism prevailed in a changing industry context.

Such *friction* between the existing meaning of the label quality journalism and the strategic industry change at hand, instigated newsmakers to interrogate and reevaluate the label and its meaning. In their communications, professionals engaged in discursive efforts to *align label and meaning*. As such, over time newsmakers began to acknowledge that digital news offerings could be reconciled with their aspirations to be 'the watchdogs of democracy' and bring quality journalism; statements reflect a change in newsmakers' cognitive understanding of quality journalism in a digital age. Instead of underlining the difference between print and digital news offerings, the value-creating possibilities offered by the integration and complementarity of both were put forward. Professionals started emphasizing the value of journalistic content developed according to the deontological code of journalism, regardless via which channel or device such content would be spread. In fact, such value of content was brought forward as the ultimate element worth paying for, whether digitally or via print subscriptions.

"The coming years, the core of the editorial office will inevitable shift from paper to electronic applications. Newspapers and paper are not inextricably connected with each other. What counts is content. An editorial staff produces knowledge and it is the quality of such content that makes the difference to the reader." 2007, professional magazine

"Some will dismiss it as old hat, but eventually the first answer to that question is quality content. In casu: good journalism. That is not only journalism that capitalizes on new digital possibilities related to accessibility, availability, flexibility and interaction. It also evolves around strong journalism with respect to content. Modern digital technology is in itself an empty box. It is at least crucial that it is filled with quality journalism." 2009, professional magazine

The label quality journalism remained. However, the existing meaning underlying the label quality journalism (content which adheres to journalistic deontological rules and is offered for payment via print) converted into an adapted meaning (content which adheres to journalistic deontological rules, whereby the format through which it is spread does not matter), congruent with the strategic industry change at hand, thus resulting in the *renewal of the label* as such.

"One thing is for sure: quality news content will always be needed to inform citizens. Whether on paper, via waves, on pc, table or smartphone. The press will adjust to these evolutions. One thing will stick: providing qualitative and trustworthy information. And that is what makes us proud to be journalists." 2013, professional magazine

Table 15 Illustrations of conversion processes

Label	Issue raising driven by friction	Label-meaning realignment	Label renewal
Deadlines	The immediateness of the internet obliterates traditional deadlines.	The internet provides opportunities for speedy news updates, combined with elaborate online or offline pieces, resulting in continuous deadlines throughout the day and continuous news production at the reader's service.	Speed of news processing is key
Internet journalism	Is the internet suitable for journalism? Print and digital news have different characteristics, are suitable for different applications.	Internet journalists are indeed true journalists who benefit from and exploit the specific characteristics of digital news, including the speed of information, the interaction with readers, etc.	Internet as a full journalistic medium
Quality journalism	Is the internet suitable for the publication of quality journalism? Online news is unreliable, sources are not checked, quick and 'easy' news is everywhere, speed is crucial and tops accuracy, etc.	Internet journalism can produce quality journalism if the guidelines (deontology) of printed journalism (e.g. independence, correctness, objectivity, trustworthiness) are transposed to internet media and applied to meaningful digital content production and publication.	Quality journalism in a digital age: content is key.
Investigative reporting	Investigative reporting requires time, money, and publication space. How to reconcile this with the speedy nature of digital news? How to transpose the complexity of investigative journalism online? How to use the internet for investigative reporting purposes?	The internet offers opportunities as an information source, to create multiple pages or click-through links per item, to visualize specific processes with graphics and videos, to upload testimonies, etc. Such added value offers numerous possibilities for meaningful investigative reporting.	Investigative reporting 2.0.
Deontological code	How to report independently when relying on advertising returns? How to make sense of the enormous amounts of information on the internet? How to balance speed of reporting and time-consuming fact checking practices? What about referencing to other digital newsmedia? What about propriety of online information?	Professional values (e.g. independence, correctness, objectivity, trustworthiness) must be redefined in a digital age. Adhering to such deontological code reflects professionalism, also in terms of digital newsmaking.	Deontological code 2.0.

Information sources	To what extent and how can the internet be used as an information source? How to deal with the deontological protection of such digital sources?	The internet offers a new range of information sources for journalists. Digital databases, social media pages, online newsmedia, clipping services, and other sources facilitate and elevate journalists' work .	Redefinition of information sources
Offline & online newsmaking	Print and digital news have different characteristics, are suitable for different applications. Can journalists work for both print and internet media?	Print and digital news benefit from each other if the strengths of both are combined to delight the reader with added value. The use of integrated newsrooms enables cross-media exploitation of news.	Integration and complementarity of print and digital news in cross-media journalism
Technology's impact on journalism	Technology and the speed at which it changes represents a threat as journalists cannot keep up with new developments, automatization takes over, etc.	As technology improves, journalists have new tools and instruments to create correct and relevant news content and to present it via multiple channels. Technology allows journalists to develop new capabilities in line with technological developments.	Technology as an enabler: enrichment of news via technological possibilities
Local reporting	Does local news still have value in a globalized world in which readers have access to news stories from across the globe?	Online local news can provide added value to digital news subscribers. Adopting a local angle in newsmaking contributes to originality and diversity in newsmaking.	Local news has its merit in a digital context

Once meaning was adapted and the label as such renewed, the converted concept of quality journalism was reinfused into professionals' cognitive understanding of their professional identity, thus coherently reconstructing such an identity according to the strategic industry change at hand. We traced multiple similar conversion processes in our data on professionals' discursive practices, as illustrated in Table 15.

4.4.2. Discursive change processes: Reconstruction through expansion

Focussing on newsmakers' statements reflecting awareness of novelties in newsmaking, our data suggests that professionals expanded their understandings related to newsmaking, thereby integrating new elements into their understanding of professional identity. In what follows, we unfold such expansion process by means of two central examples in newsmakers' cognitive understanding of their professional identity. Additional illustrations of expansion processes are presented in Table 16.

As a strategic industry change, digitization brought forth numerous innovations, ranging from purely technological innovations (e.g. mobile technology, big data technology) over journalistic innovations (e.g. journalism as an experience, citizen journalism) to business model innovations (e.g. platform services, aggregator models). Such innovations would instigate newsmakers' interest, as reflected in their discursive practices. However, innovations would also entail the infusion of *ambiguity based on an emerging sense of identity disruptions* into professionals discursive practices. As novelties engender uncertainty, professionals' statements would increasingly point to an emerging sense of potential disruption of their coherent identity conception by innovations in their industry. For instance, driven by technological possibilities a revenue model based on click-through rates was put forward, yet also led to the development of so-called pageview journalism or the creation of digital news content based on readers' specific click-through behavior. Whether such a development would lead to intensified commercialization of newsmaking remained uncertain. Other innovative developments similarly resulted in ambiguity; as new technologies or business models would appear, the opportunities or consequences of such innovations would often remain vague at initiation.

Hence, *driven by innovation* at multiple points in time issues were raised in newsmakers' discursive practices. As novelties penetrated newsmaking, professional newsmakers engaged in the assessment of whether such innovations would suit their profession. As such, new labels

pointing to new concepts would be evaluated to assess the extent to which the label and its provisional meaning would fit into cognitive understandings of the profession and, hence, professional identity. For instance, as big data technology developed, the concept of datajournalism came about. Such journalism entails all potential uses of big data to come up with qualitative and meaningful journalism. Datajournalism allows the analysis of large amounts of data by journalists, resulting in a form of journalism that is particularly relevant for investigative reporting. The label datajournalism and its connected meaning were assessed and refined in journalists' discursive practices; its value for and fit with the profession was evaluated and defined.

"Thanks to the internet and the related rise of datajournalism, there is hope for better days. And luckily there are also many whistle-blowers who are standing up. Many smart youngsters, acquainted with computers, end up in journalism and apply new technologies to old-fashioned curiosity. It increases the enthusiasm for investigative reporting. And its [the journalistic profession] role as 4th power regains in importance." 2012, professional magazine

Such *label fit assessment* ultimately led to the *integration of the new label* at hand, thereby expanding the set of labels related to the journalistic profession and, hence, the professional identity. In other cases, such a label fit assessment led to *the rejection of a label*. For instance, citizen journalism, which refers to news production by citizens attempting to voice alternative viewpoints, was assessed as unfit to match the set of labels related to the journalistic profession and, hence, the cognitive understanding of professional identity. Citizen informants may inform professional journalists, yet actual news production according to journalistic deontology was defined as a task for news experts, i.e. professionals.

"The development of new technology has turned every individual into a potential journalist. Many thousands of citizens have started producing 'news' outside of the traditional media boundaries. Have they all become journalists?" 2009, professional magazine

"Only professional journalists have the know-how, the experience, the accreditations, the authority and the prestige that is needed to deliver quality news content." 2010, professional magazine

"Today the challenges are immense. More than ever is it important to distinguish true journalists from others. By that, we refer to journalists that cover events in a professional and independent way for a broad audience. Because of the technological revolution, there have never been as many rivals in the field – citizen journalists, communication professionals – and that justifies more than ever that priority be given to professional journalists." 2011, professional magazine

Table 16 Illustrations of expansion processes

Label	Issue raising driven by innovation	Label fit assessment	Label integration
Hybrid products	Journalists contemplate experimental projects inspired by the possibilities of digitization, including digitally archived news clippings, printed newspapers targeting the internet generation, printed newspapers providing short 'internet-like' news items.	In an increasingly digitized professional context, it is but relevant that professionals experiment with and develop journalistic products with a hybrid nature to learn about the market and technological possibilities offered by digitization.	Hybrid products
Selection	Journalists learn to navigate the large amounts of data available on the internet to provide relevant news content. At a later stage, tools including (digital) news trackers and clipping services are increasingly used to select relevant content.	In an information overloaded context, journalists become guides who produce, select and evaluate relevant news content. This implies that journalists become content managers.	Newsmaking as 'selection' and 'guidance'
News as an experience	As online newssites develop, journalists increasingly combine online and offline content to provide readers with a complete concept. Online content is increasingly enriched by videos, audio fragments, etc.	As readers' consumption of news changes, the journalistic creation of 'moments of news consumption' or experiences can strengthen readers' loyalty to newspapers, both on- and offline.	Newsmaking as creating an experience
Journalism as a service	Technological advancements make it possible for journalists to develop online news content that can be consumed on different platforms (e.g. laptops, pc's, e-readers, tablets, etc) in a user-friendly manner (e.g. easy online payment systems).	Providing news anywhere, anytime and in an easy manner requires journalists to become more customer-oriented, to keep in mind multiplatform presentation of news, to develop adapted products (tablet versions, news feeds, etc.).	Newsmaking aimed at customer service and delight
Big data	Rise of big data, online metrics, etc.	Big data offers valuable information regarding reading habits, click-through rates, etc.	Big data in journalism defines reading, writing and advertising
Hyper-textuality	Hyperlinks make it possible for journalists to link their online pieces to other internet pages.	Hyperlinks allow journalists to provide additional information to readers, thus giving more depth to their article, by providing them with the opportunity to click through to other relevant sites and pages.	Hypertextuality

Digital first	Journalists experiment with uploading their articles whenever ready and not waiting for them to be published in print upfront.	By publishing articles digitally upfront, thus exploiting the immediate nature of digital news, editorial offices underline their continuous on- and offline presence, their speed of reporting, their trustworthiness.	Digital first mentality
Multiplatform newsmaking	Technological advancements make it possible for readers to consult news on multiple platforms (pc, mobile, etc.) at any point during the day.	To service readers anytime, anywhere, journalist provide news content in multiple forms (text, audio, video), on multiple platforms for a variety of adapted products. Journalists increasingly translate one item in multiple forms to cater to readers' wishes.	Multiplatform newsmaking and 'anywhere anytime' mentality
Professional and citizen journalism	Citizen journalists develop newssites on which they provide news articles, often to present alternative viewpoints in relation to existing media, using easily accessible software or social media applications.	Professional journalists differentiate their news content from content provided by citizen journalists. Although citizen journalists can play a role as an information source (citizen correspondents), professionalism in newsmaking is stressed.	New producers of journalism: citizen journalism, blogs, alternative journalism
Tech-enabled journalism	Digital technologies are put to use by journalist to develop relevant news content, e.g. scrapping the internet for information, data analytics to analyze big data,…	New forms of journalism and new applications arise, such as datajournalism, video journalism, gamification on newssites, the spread of articles via social media, scrapping techniques, etc. Tech-enabled journalism benefits from the development of digital capabilities going beyond pure online newsmaking abilities.	New forms of journalism: datajournalism, virtual reality journalism, videojournalism, long reads,…
Digital acceleration	The incorporation of all sorts of techniques, applications, programs, tools, hardware and software to produce and bring to market digital news in an ever more effective and efficient way.	Journalists benefit from the development of online newsmaking capabilities to produce qualitative and relevant digital content.	Digital acceleration
Experts and produsers	Readers use technological applications, especially on social media, to 'self-publish' or take part in societal debates on digital channels.	Journalists differentiate their news content from content provided by so-called produsers. Whereas produsers occasionally produce writings on a topic, journalists position themselves as experts in newsmaking. Professionalism in newsmaking is stressed.	Expert versus produser content
Editorial integration	New forms of digital advertising develop, including pop-up advertisements, native advertising, editorial integration, etc.	New forms of digital advertisement put pressure on the strict division between commercial aspects and journalistic aspects in the newspaper business, and thus the independence and objectivity of journalists. Journalists must carefully protect these boundaries and 'walk the line'.	Editorial integration and the commercialization of news

Personali-zation	The collection and analysis of digital information on readers and their reading preferences (measured via click-through rates, etc.) allows for the presentation of personalized news content.	Personalization offers opportunities to provide readers with relevant news content. Apart from privacy issues, journalists must be aware that personalized news can potentially lead to less diversified news, thus undermining the role of journalism as a democratizing medium (4th power). Journalists must carefully protect this role.	Personalization
Cybersecurity	Datajournalism, investigative journalists using digital sources, journalists' online processing of data, journalists' online searches, etc. result in a new type of risks for journalists in terms of self-protection and the protection of sources.	Journalists' use of confidential digital data sources and digital processing of data sources necessitate journalists to develop cybersecurity capabilities to protect data sources according to journalistic deontology.	Cybersecurity
Authenticity	General tendency to underline the authenticity of newstitles, newsbrands and professional newsmaking, as a reaction to industry consolidation, the commercialization of news and the rise of infotainment newssites. Rise of independent professional newssites focusing on in-depth and authentic piece development for specific niches (topics, target groups, etc).	Adhering to the professional value of producing original journalistic work, digital newsmaking initiatives differentiate themselves by focusing on authentic journalism. Diversity and pluralism obtained via such authentic news initiatives contributes to the democratizing role of journalism (4^{th} power)	Authenticity
News ecology	Professional journalists increasingly become part of or initiate digital news projects funded and organized in innovative ways, e.g. newssites developed around one journalist, newssites based on crowdfunding, collectives of freelancers offering newsarticles to platforms such as Blendle, etc.	Journalism is becoming a news ecology with different actors (journalists, platforms, press agencies, etc.) focusing on specific aspects of newsmaking and providing different types of news (infotainment, investigative journalism, etc.). Journalists become intra- and entrepreneurs in their pursuit of digital projects. Individual journalists develop newssites and become brands focusing on specific types of journalism, topics, etc. Such pluralism contributes to the democratizing role of journalism (4^{th} power).	New organizational forms for journalists incl. crowdfunding initiatives, platform services, etc.

In sum, once a label and its meaning were deemed fit to be integrated into the set of labels related to professional newsmaking, the new concept was reinfused into professionals' cognitive understanding of their professional identity, thus coherently reconstructing such an identity according to the strategic industry change at hand.

4.4.3. A grounded model of professional identity transformation and strategic industry change

The study of digitization and journalists' related identity transformations provides an instructive example of the evolving interaction between strategic industry change and the dynamics related to professional identity transformation. Our process model, shown in Figure 6, captures the interactions between strategic industry change as a whole and journalists' evolving collective identity, as reflected and reshaped by their cognitive understanding of digitization. Specifically, it highlights how journalists' discursive reconstruction of newsmaking via conversion and expansion processes informed professional identity transformation. We examine this model in detail in the following section.

Grounded in our data we found that professional identity is an ever-evolving construct. Impacted by changes brought forth by strategic industry change, including changing competitive dynamics, experimentation by professionals, and organizational transformation instigated by digitization, professional identity evolves. As existing work content and processes, professional values and self-conceptualizations are influenced by digitization, identity ambiguity arises. Such ambiguity either develops from identity integrity discrepancies arising from friction between existing cognitive understandings of professional newsmaking and actual newsmaking in a digital context, or based on an emerging sense of identity disruption arising from all sorts of innovations with unpredictable consequences for newsmaking. Identity ambiguity instigates professionals to discursively reconstruct their understanding of professional newsmaking. On the one hand, professionals engage in conversion processes; driven by friction, old labels are renewed to fit the digital context, whereby professionals move from label-meaning realignment to label renewal. On the other hand, professionals engage in expansion processes; driven by innovation, new labels are integrated into the set of labels related to the profession, whereby professionals move from label fit assessment to label integration or rejection. Ultimately, reconstructed cognitive understandings of newsmaking feed back into professionals' cognitive understanding of their

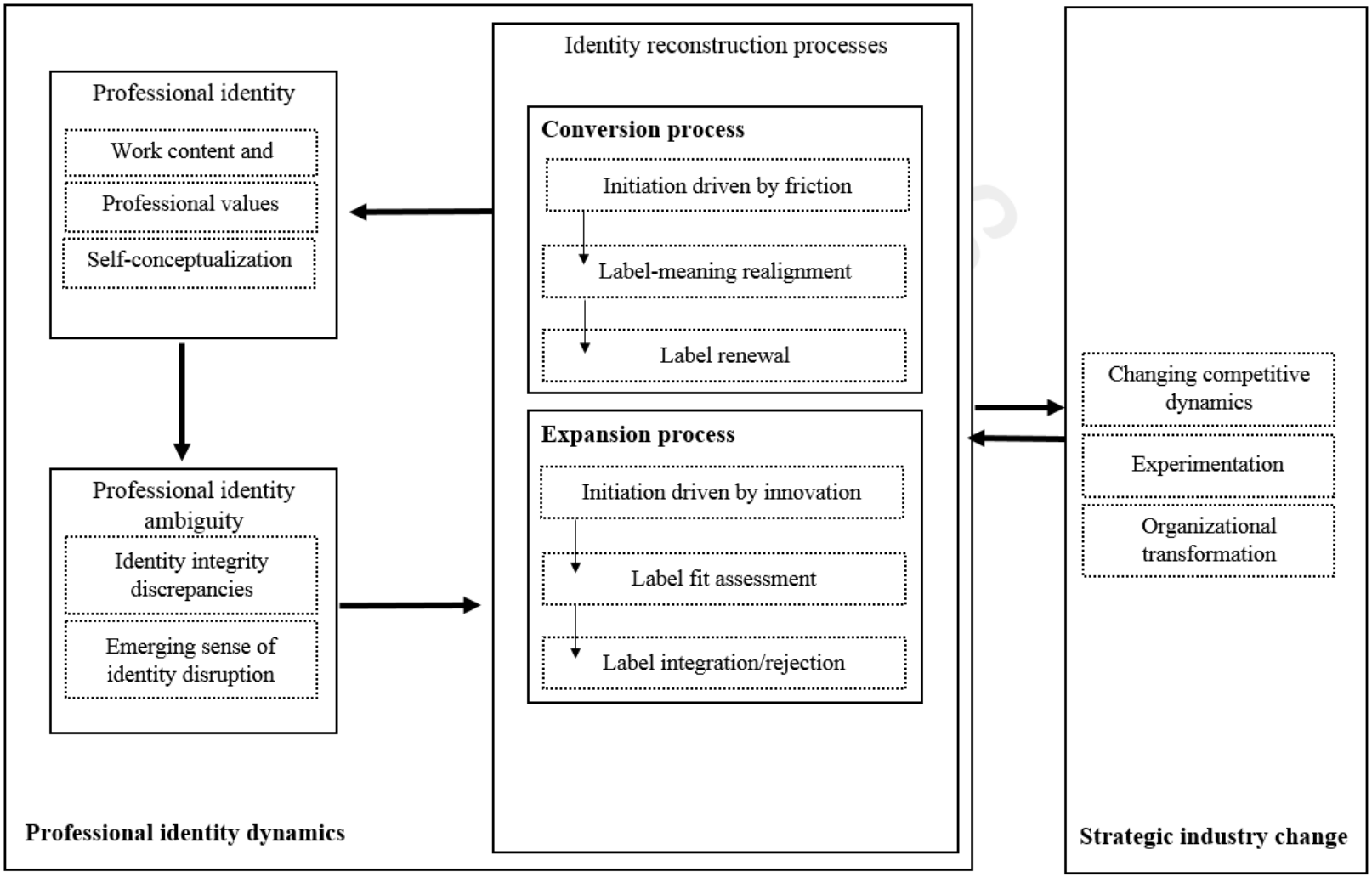
professional identity and its related concepts, leading to transformations in such cognitive understandings. This process is repeated over time and, characterized by systematic identity transformations, the collective of professionals gradually renegotiates professional identity in the context of digitization.

The six time frames that we identify serve as evidence of this gradual process of interaction between strategic industry change and professional identity transformation. The evolution we uncover, from old-school to entrepreneurial understandings of professional journalism and the related professional identity, is enabled by multiple conversion and expansion processes (illustrated in Table 15 and 16) that allow the reconstruction of understandings of professional newsmaking and hence the transformation of professional identity.

The point is that as strategic industry change progresses and its consequences become clear, professional identity likewise transforms. Digitization impacted professional identity dynamics, for instance by influencing work processes and content. Likewise, these dynamics impacted strategic change, for instance because understandings of professional identity shaped, sustained and steered experimentation, which stimulated organizational change and influenced competitive dynamics. As such, shifts in professionals' cognitive understanding of their identity enabled them to contribute to the industry change at hand. As long as professional journalists problematized the differences between print and digital newsmaking, they were unable to fully leverage digitization into their profession and benefit from its possibilities. However, as they shifted to more integrative thinking, they were able to incorporate the possibilities engendered by digitization to service their readers, thus to support their profession and, ultimately, their own professional relevance. Finally, moving even further, shifts in cognitive understandings of the professional identity allowed for a renewed understanding of professional journalism as an ecosystem in which quality news is developed and distributed by entrepreneurial journalists.

In sum, Figure 6 illustrates how over time professional identity is shaped by strategic industry change, yet also highlights how professional identity understandings can shape strategic industry change, as specific core elements of journalism sustain, even in converted form, and new core elements are integrated, allowing or discouraging changes in newsmaking and, hence, potential disruptive change in the industry.

Figure 6 Theoretical model of professional identity transformation



4.5. DISCUSSION

In this study we explored how journalists, as a collective, engaged in the reconstruction of cognitive understandings of their profession in response to the digitization of their industry. Specifically, by exploring newsmakers' statements regarding the impact of digitization on their professional identity, we identified two types of discursive reconstruction processes, instigated by professional identity ambiguity, through which professionals reconstructed a coherent professional identity congruent with the strategic industry change at hand. By converting old understandings of professional identity into new ones (conversion processes) and by expanding understandings of professional identity by means of new elements (expansion processes), professionals engaged in the reconstruction of core elements related to their professional identity.

Our study reveals the recursive interrelations between identity, cognition and strategic industry change. As digitization changed competitive dynamics and ways of newsmaking, journalists' cognitive understandings of their professional identity evolved, while new or adapted understandings of identity shaped consequent cognitive interpretations of new digital advancements and the digitized media landscape. Such interrelations defined the systematic transformations in newsmakers' understanding of professional identity that paralleled the evolving strategic industry change.

Hence, our study contributes to scholars' understanding of how strategic industry change interrelates to the professional identity of a collective. Our model highlights the dynamics underlying professional identity as an ever-evolving construct and the importance of collective-level processes with regards to such evolution. We underline the significant role of professional identity in relation to strategic industry change in industries populated by demarcated professional collectives. As such, we respond to a recent call in management literature by Anteby, Chan, and DiBenigno (2016) for more research on professions, as these matter in shaping organizational and industry outcomes. We show that a better understanding of the dynamics characterizing professional collectives allows for an adequate scholarly interpretation of industry dynamics, including strategic change (Anteby et al., 2016).

4.5.1. Strategic industry change and continuous identity transformation

By delving deeper into the processes through which professional identity evolves and transforms, we developed a grounded model which underlines the extensive potential of intertwining identity theory and strategic management research to explain industry dynamics. Our study highlights how shifts in professionals' cognitive understanding of their identity enable them to cope with the strategic industry change at hand. While over time professional identity is impacted by strategic industry change, in turn professional identity also defines professionals' cognitive understanding of industry changes and their consequences.

Strategic change scholars have focused on the dynamics related to the reconstruction of meanings regarding change, including in case of strategic change implementation, organizational change, and organizational identity transformation, thereby often endorsing Lewin's (1951) three phase model of change which ranges from 'unfreezing' over 'moving' to again 'freezing' processes. An illustration of such endorsement is Fiol's (2002) application of Lewin's model to organizational identity transformation and her emphasis on the role of language to reconstruct cognitive understandings of organizational identity (i.e., identification, de-identification, re-identification). By showing what dynamic process underlies professional identity change and its discursive reconstruction at the level of a collective, our study affirms but also extends these views.

On the one hand, although we did not depart from Lewin's or any other conceptual model but adopted an inductive approach (cfr. Sonenshein, 2010) to study the changing understandings related to professional identity transformation in a context of disruptive change, the concept of identity ambiguity resonates with the 'unfreezing' phase, the reconstruction processes echo the 'moving' phase, and the renewal of the professional identity resonates with the 'freezing' phase. As such, our study adds to the previously mentioned stream of research in strategic management that applies Lewin's model to conceptualize change, in our case professional identity transformation, and the associated process of meaning reconstruction.

However, on the other hand we extend such conceptualization, as our adoption of an inductive approach allowed us to also capture the *continuous* nature of identity transformation. We thereby pinpoint the role of two types of ambiguity as well as two specific collective-level change processes (i.e., conversion and expansion) which characterise such continuous identity

transformation and hence, process of meaning reconstruction. By grasping the continuous nature of professional identity change, our model accommodates for an understanding of identity as a meaningful and intrinsically dynamic construct. Such a dynamic understanding underlines the extent to which identity can be conceived of as a social process in itself, as opposed to a mere attribute related to an organization, an individual or a collective of professionals. It also allows us to engage in a thorough explanation of the professional dynamics that continually permeate and shape industry outcomes, as called for by Anteby et al. (2016) in their request to reappraise professions and professional dynamics in management scholarship. As the authors posit, professional dynamics are so particular that a lack of understanding of such dynamics could potentially lead to misinterpretations of industry phenomena and processes (Anteby et al., 2016). Hence, grasping the continuous dynamics related to professional identity transformation allows for an adequate interpretation of strategic industry change.

4.5.2. A social process at collective level

Our study also makes contributions to theory of identity, in particular theory on professional identity. Over the past decades, professional work and demarcated professional entities have become increasingly present in our society, an evolution that implies and underlines the importance of constructing identities as professional and entrepreneurial (Ashford et al., 2007: 67). However, identity theory's present focus on social identity or self-categorization theory, although very valuable, has not sufficiently taken into account the unique situation professionals of a demarcated collective are in, let alone in case strategic industry change occurs (e.g., its impact on implicit and explicit norms, values, working rules or activities of a demarcated collective of professionals). As professional identities reside within groups of professionals extending beyond organizational boundaries, such identity exists at a higher level of analysis than social identity, which actually resides within a single individual (Pratt, 2003).

Our focus on the particularities of professional identity change at collective-level allows us to theorize on the process of identity transformation within such a collective. Specifically, our aim was to study collective-level processes linked to professional identity and its transformation, as a collective identity and the socialization into it are a source of both individual and organizational identity that remained understudied (Ashford et al., 2007). Therefore, in parallel to seminal leadership identity research which concentrates on social

claiming and granting processes amongst leaders and followers (DeRue & Ashford, 2010), our study pinpoints the social process by which professional identity is transformed.

Importantly, it does so by underlining the role of collective-level discursive practices in such transformation. Research has disentangled the importance of verbal language in transmitting collective identity conceptualizations throughout a collective, thereby highlighting analogies, myths, storytelling, metaphors, songs and sayings as means of such transmission (Pratt, 2003). Moreover, the role of narratives in identity building and reshaping dynamics at individual and organizational levels of analysis has been highlighted in a recent review of narrative research (Vaara, Sonenshein, & Boje, 2016). Yet our study underlines the role of discursive practices in the transformation of identity at collective level: professional identity is negotiated and discussed among a demarcated entity of professionals across an industry and consequently, via conversion or expansion processes, it becomes modified. Such practices could be pinned down in identity research as a form of identity work that professionals engage in at collective level.

Merely interviewing individual members of the collective would not have enabled us to map and explain the evolutions that occurred in discursive practices: it was the study of the entirety of textual materials that were created and circulated among members of the collective that allowed us to reconstruct the dynamics underlying professional identity transformation processes. Particularly because journalists were inclined and expected to put in words or write down (i.e., articulate) their cognitive understanding of the (evolving) professional identity, did that identity further develop and crystalize across the collective.

4.5.3. Future research

Our grounded model illuminates the processes by which professional identity is transformed. However, whereas our study explains professional identity change due to the impact of a disruptive technological innovation in the newspaper industry, further research needs to refine this picture by looking into different types of disruptions, innovations and industry contexts. Such studies would also allow the articulation of specific boundary conditions in relation to the grounded model we present. We identify general concepts, for example two novel types of ambiguity, arising from our case context, yet a different context might present complexities related to these concepts that are not fully captured in our current grounded model.

In that respect, it would be of specific interest to replicate, compare and extend our findings regarding professionals in the newspaper business with professional collectives in different

industries. For instance, architects are also part of a demarcated collective with implicit and explicit norms including deontological guidelines and specifications. It would be interesting to find out whether architects are similarly affected by specific types of ambiguity and similarly engage in discursive identity reconstruction processes when impacted by disruptive change. We find that journalists engage in two types of discursive reconstruction processes, yet are there additional reconstruction processes at play in other collectives of professionals? Or might there be specific barriers to engage in such discursive reconstruction processes in industries where deontological guidelines and specifications are set up differently (e.g. more strictly), for instance in medical professions?

In addition to further elaboration of the concepts we identified, future research might look into a number of specific findings in our study. First, of particular interest could be to further delineate how professional identity change and the related transformation processes engender entrepreneurial attitudes and behaviour in the context of strategic industry change. How can professional identity transformation instigate or impede entrepreneurial behaviour or attitudes? What are boundary conditions related to the development of entrepreneurial identities in strategic change contexts? As entrepreneurial behaviour appears to be an interesting option for professionals to take matters into their own hands in case of strategic industry change, studying such linkage between entrepreneurship and professional identity change ought to shed light on a range of topics, including opportunity recognition and exploration. A vast range of studies have focused on identity-related characteristics of entrepreneurs, including founder identity (Fauchart & Gruber, 2011), entrepreneurial passion (Cardon, Gregoire, Stevens, & Patel, 2013; Murnieks, Mosakowski, & Cardon, 2014), and entrepreneurs' social identity (Sieger, Gruber, Fauchart, & Zellweger, 2016). Moreover, the transition towards entrepreneurship has been studied in terms of roles and identity (e.g., Dobrev & Barnett, 2005). Building on our study, additional research into professional identity transformation (and the development of entrepreneurial behaviour) in relation to strategic industry change ought to bring new elements to the foreground.

Second, we found that when an industry is strategically changing identity ambiguity can be particularly salient at specific moments in time. Seen its key role in professional identity transformation processes, such ambiguity warrants further research. It would for instance be interesting to examine our findings regarding the development of professional identity ambiguity in a context of disruptive change using theory on emotional contagion (Barsade, 2002). Since professional identity change entails a collective process of identity

(re)construction (i.e. a shared social process), an examination of emotional contagion or the transfer of moods amongst members of a collective and its impact on industry processes ought to shed new light on the role of emotions with regards to professional identity change. It would be valuable, for example, to relate different types of ambiguity to processes of emotional contagion amongst professionals. Are specific types of ambiguity more or less impacted by emotional contagion? Does such contagion hinder or motivate professional identity reconstruction? In what ways does such contagion ultimately aid or hamper strategic industry change?

Third, future research could extend our findings on collective-level identity transformation in relation to strategic industry change by looking into dynamics occurring cross-level. One of the limitations of our study is that we solely focus on collective-level processes. Consequently, relating our findings back to individual- or organizational-level processes could significantly extend our work. On the one hand, introducing individual-level dynamics, research could for instance focus on the manipulation of collective-level identity transformation processes by specific individuals, including change agents or influential industry actors. What mechanisms or actions could potentially be used by these individuals to instigate a sense of identity ambiguity? Can these individuals impact, steer or hinder expansion or conversion processes at the collective level? On the other hand, adding organizational-level aspects, it would be interesting to study the interplay between collective-level identity transformation and organizational change processes. How exactly does meaning construction or framing at the level of the collective interact or even interfere with meaning construction at organizational level? Since identity is an evolving and cross-level concept, how does meaning construction at multiple levels potentially result in identity conflicts across these multiple levels? Studying such questions would require access to data at different levels than the data we collected, to study individual and organizational-level processes, yet relating our findings back to dynamics occurring cross-level ought to engender novel insights on identity transformation and industry change as a whole. Regarding cross-level identity research, an interesting path to develop future research on professional identity transformation and meaning construction, would entail the explicit incorporating of theory on claiming and granting identities, more specifically leadership identities (DeRue & Ashford, 2010). Additional research into the collective-level process of professional identity change could focus on who takes the lead in such process and who grants such leadership. What gives an individual or group of individuals the needed credibility to instigate or, in contrast, hinder change? How does a process of claiming and

granting leadership within a collective of professionals unfold and how does such a process potentially impact or interplay with the model we present on professional identity transformation?

In sum, whereas questions remain, we hope our research offers an initial stepping stone to further develop insights regarding professional identity transformation and its relation to strategic industry change.

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GENERAL CONCLUSION

This dissertation consists of three empirical studies that explore a range of important processes and practices at the crossroads of strategy and entrepreneurship research, including resource orchestration processes, the evolutionary process of framing strategic change, and professional identity transformation processes. Specifically, I focus on cognitive understandings of these strategically relevant processes and practices, and their impact onto strategic outcomes such as strategic expansion, strategic change and strategic inertia in industries in flux.

In the following, I provide a brief summary of these empirical studies, thereby highlighting my main contributions to strategic management research adopting a cognitive perspective on strategy. I conclude by discussing avenues for future research which ought to prove vital to advance theory in the fields of strategy and entrepreneurship.

5.1. SUMMARY OF THE RESULTS AND CONTRIBUTIONS

The goal of this dissertation was to shed light on the impact of cognitive understandings of strategically relevant issues onto strategic outcomes in dynamic change context. The development of strategic responses to disruptive industry change is a major challenge for many established firms, professionals in these firms, and entire industries in general. Inertial forces grounded in the cognitive understandings of such change often hinder or impede strategic change or strategic expansion.

Chapter 2 presents the first study of my dissertation entitled *Portfolio entrepreneurship and resource orchestration.* This study examines an entrepreneur's evolving understanding of resource orchestration processes in a dynamic industry context. We highlight a range of distinctive resource orchestration processes that explain how the entrepreneur structures and

rearranges resources and capabilities across multiple firms as he/she strategically expands his portfolio of firms. Adopting a single-case study approach and using interview and blog data, we engaged in a longitudinal examination of the entrepreneur's enduring opportunity exploration and exploitation efforts. Adding to the literature on resource orchestration and enduring entrepreneurship, our main contribution consists of identifying specific cross-portfolio resource orchestration processes that ought to prove especially valuable to survive and engage in strategic expansion in a dynamic environment (Sirmon, Hitt, & Ireland, 2007; Zahra, Sapienza, & Davidsson, 2006). At the same time, we underline the entrepreneur's evolving ability to steer resource orchestration. To adjust to the ever-evolving dynamics in his industry context, we show that the entrepreneur develops an ability to identify, create, and facilitate the diffusion of knowledge and capabilities when strategically expanding, which can ultimately be considered as a dynamic capability. Hence, we implicitly relate resource orchestration processes and learning processes, thus responding to Danneels' (2011) call for more work on 'resource cognizing'.

Chapter 3 presents the second study of my dissertation entitled *Talk the talk, walk the walk: Framing strategic change following disruption.* This study adds to a recent stream of strategic management research that considers managerial cognition to be a dynamic process of meaning construction, whereby meaning is created via the use of framing processes (Cornelissen & Werner, 2014; Gurses & Ozcan, 2015; Kaplan, 2008b). As a call was launched in strategy literature to trace the development of cognitive constructs through analysis of textual sources, we opted for a longitudinal interpretative study of textual materials produced in the Belgian media industry that reflect the micro-level framing processes of two media groups' decision-makers (Kaplan, 2011a). We present a typology of framing practices used in a highly ambiguous environment, pinpoint the evolutionary process of framing and highlight that decision-makers need to engage in reframing when additional information becomes available. We also show that specific framing practices instigate new capability development. In terms of contributions, first and foremost we extend strategic decision-making theory on the impact of cognition on strategic change and strategic inertia by developing such framing typology and unpacking decision-makers' evolutionary framing processes in response to strategic industry change. As such, we contribute to a growing stream of strategic management research that looks at the linguistic side of strategy making (Cornelissen, Holt, & Zundel, 2011; Sonenshein, 2010; Vaara, Kleyman, & Seristo, 2004; Vaara, Sonenshein, & Boje, 2016; Vaara & Whittington, 2012). Second, our examination of these foundations of cognitive change and

cognitive inertia, and thus strategic change and strategic inertia, sheds much needed light on the framing – and thus cognitive – dynamics underlying new capability development and absorptive capacity in established firms.

Chapter 4 presents my third dissertational study entitled *Professional identity transformation and strategic industry change: From ambiguity to reconstruction.* For this study we employed a grounded theory approach to gain insights into the dynamic processes characterising professional identity change in the context of strategic industry change. Using a tailor-made data set comprising textual materials (writings and conversations originating from 2000 to 2015), we engaged in a longitudinal study of discursive practices of professionals in the Belgian newspaper industry, which reflect the occurrence of changes in these professionals' cognitive understanding of identity. Specifically, we explain how professionals engage in identity reconstruction processes: old understandings of professional identity are converted into news ones and understandings of professional identity are expanded by means of new elements. In terms of contributions, first and foremost, we show the potential of intertwining professional identity theory and strategic management research to better understand how changes initiated in professionals' cognitive understanding of their identity mirror and impact industry-wide strategic change. As such, we contribute to an emerging stream of strategy research which adopts identity theory's emphasis on identity processes among collectives of individuals to study industry-wide phenomena (Gioia, Patvardhan, Hamilton, & Corley, 2013; Nelson & Irwin, 2014). Our study of professional dynamics thus sheds complementary light on industry dynamics at large (Anteby, Chan, & DiBenigno, 2016). In addition, we extend identity theory itself as we respond to recent calls to invigorate research on professional identity and focus on collective-level identity processes (e.g., Anteby et al., 2016; Ashford, George, & Blatt, 2007). We underwrite identity theory's conceptualization of identity construction as a social process (DeRue & Ashford, 2010). Yet we extend theory by concentrating on the role of discursive practices, and language in general, as a means of creating (new) meanings among a collective. Thus, identity (re)construction can be viewed as a social process, whereby language practices are seen as socially conditioned yet also socially constitutive.

5.2. AVENUES FOR FUTURE RESEARCH

In the introduction of this dissertation, I emphasized the importance of understanding the cognitive foundations underlying strategy making in changing contexts. Recent studies in

strategy and entrepreneurship aim to complement the rational economist perspective on strategy making by showing how cognition impacts strategic decision-making in disrupted contexts. These studies do so by examining the relation between cognition and a range of strategic issues such as capability development, resource renewal, and strategic innovation (Benner & Tripsas, 2012; Bower & Christensen, 1995; Kaplan, 2008a; Tripsas & Gavetti, 2000). Yet despite this established interest in the cognitive perspective in strategy, there are still many constructs and methods to be explored, applied, tested, or challenged within this domain of research (Kaplan, 2011a: 689). This dissertation contributes to the need for work adopting a cognitive perspective on strategic decision-making in entrepreneurship and strategy.

However, the scope and far-reaching impact of cognition on strategy drives the research domain's extensive potential for future work. In each of the chapters presenting the empirical studies that make up the body of this dissertation, specific avenues for future research are outlined. In this final part, I highlight a number of main avenues for future research that flow from this dissertation and relate to strategy research adopting a cognitive perspective.

A need for more strategy research on framing and reframing in disruptive contexts. In Chapter 3, I concentrate on the framing practices decision-makers at established firms engage in when dealing with disruptive change. Adaptation to change requires experimentation with new business models, the reallocation of resources across businesses, new capability development and the explorations of opportunities (Danneels, 2011; Sull, 2009). I explain that as decision-makers engage in adaptive and integrative framing under highly ambiguous and uncertain circumstances, framing ultimately impacts strategic decision-making processes regarding strategic adaptation and thus potential strategic inertia. However, decision-makers also engage in reframing when additional information becomes available. Yet the specific mechanisms through which such reframing occurs, or what factors instigate or hinder such reframing, remain to be explored. Insights regarding reframing mechanisms and factors impacting such reframing could potentially shed light on a number of relevant topics in entrepreneurship and strategy literature that relate to shifting cognitive understandings in contexts of change, including business model experimentation (Andries, Debackere, & Van Looy, 2013), continuous morphing (Rindova & Kotha, 2001), absorptive capacity (Cohen & Levinthal, 1990; Zahra & George, 2002), framing contests (Gurses & Ozcan, 2015; Kaplan, 2008b), etc. More generally, the study of specific reframing practices and mechanisms would add to the growing body of strategy work that conceptualizes strategy in terms of strategy as practice. It would shed additional light on the role of language as a vital strategic instrument

for decision-makers in disruptive contexts (Vaara et al., 2004; Vaara et al., 2016; Vaara & Whittington, 2012).

A need for more research intertwining identity theory and strategic management theory. Chapter 4 focuses on the discursive practices underlying professionals' cognitive understanding of professional identity transformation in light of disruptive industry change. It explains how discursive practices render and enable professional identity transformation, and ultimately support strategic industry change. Strategic management theory focussing on strategic industry change has only recently started incorporating professional identity theory to explain such strategic change (Gioia et al., 2013; Nelson & Irwin, 2014). Thus, with regards to the study of industry-wide phenomena such as the impact of digitization, intertwining identity theory and strategic management theory ought to engender interesting interactions. Specifically, the study of identity processes of collectives of professionals who operate in changing industries and potentially shape industry-wide phenomena ought to represent an interesting avenue for strategy researchers focussing on strategic industry change.

In that respect, Chapter 4 highlights that as journalists' identity transformed under influence of increasing digitization in the media industry, entrepreneurial behaviour became more prevalent, i.e. journalists started acting as intra- and entrepreneurs instead of mere employees of a large media concern. Consequently, future research ought to delineate how professional identity change and the related transformation processes engender entrepreneurial attitudes and behaviour in the context of strategic industry change. Such research ought to shed light on how identity transformation processes contribute to entrepreneurial activity as opposed to the occurrence of strategic inertia within an industry in flux.

A need for more multi-level research. The empirical studies in this dissertation show how the manifestations of cognitive understandings at one specific level (i.e. at individual level in Chapter 2 and 3, and at collective level in Chapter 4) impact strategic outcomes at multiple other levels (i.e. at portfolio level in Chapter 2, at company level in Chapter 2 and 3, and at industry level in Chapter 4). Hence, the presented studies indicate that to fully grasp and develop a profound understanding of the impact of cognition on strategic outcomes, a multi-level conceptualization of cognition's manifestation and impact is called for. Opportunities for multi-level research are numerous and ought to engender novel insights that advance strategic management research.

For example, with regards to identity transformation processes, strategic industry change may imply identity transformation at multiple levels (Gioia et al., 2013; Nelson & Irwin, 2014; Patvardhan, Gioia, & Hamilton, 2015). Hence, future research could extend our findings on collective-level identity transformation by relating collective-level processes to transformation processes at individual or organizational level. How do individuals, including change agents, influential industry actors or well-connected decision-makers, manipulate collective-level identity transformation processes? How do collective-level identity transformation processes interplay with organizational change processes? How do framing processes at the level of the collective interact or even interfere with framing processes at organizational level? The development of multi-level insights on identity change and strategic industry change ought to engender novel understandings that could advance strategic management theory on industry change as a whole.

With regards to framing practices as the micro-foundations of cognition, future research could contribute to the strategic management field by explaining the multi-actor construction and reinforcement of strategic inertia across an industry facing disruption. Extant research has focused heavily on how decision-makers frame industry change and the ensuing organizational change, emphasizing their aim to strategically steer such change, both at industry and organizational level. For instance, literature on sensegiving illustrates such focus (Gioia & Chittipeddi, 1991; Maitlis & Lawrence, 2007), as well as research on framing contests (Cornelissen & Werner, 2014; Fiss & Hirsch, 2005; Gurses & Ozcan, 2015; Kaplan, 2008b; Zietsma & Vertinsky, 1999). Yet there is still a need for multi-level research that addresses how the framing practices of a variety of industry actors, including decision-makers at established firms, professionals, and competitors, jointly contribute to strategic inertia within an industry. By connecting a macro-level event, namely industry change, to micro-level framing processes of multiple actors involved in or affected by strategic industry change, future research ought to pinpoint to what extent and how strategic inertia is socially constructed over time.

A need for rich research methods. Overall, the empirical studies in this dissertation comprise qualitative case study research, whereby an interpretative, grounded theory building approach was used for analysis. Case study research is particularly suitable to tackle *how* and *why* types of questions, and to study contemporary problems for which theory is lacking (Eisenhardt & Graebner, 2007), when no formalized expectations are posited and the formulation of strict hypotheses seems premature (Eisenhardt & Graebner, 2007; Suddaby, 2006). The future

avenues for research outlined previously equally seem to hint towards the development of such exploratory studies to achieve new insights.

The research methodologies employed in the empirical studies in this dissertation advocate the use of rich research methods for future studies on cognition and its impact. Existing strategic management studies already adhere to the use of written or verbal statements as indirect indicators of decision-makers' cognition (Barr & Huff, 1997; Barr, Stimpert, & Huff, 1992; Kaplan, 2008b, 2011b; Nadkarni & Barr, 2008). Of particular relevance to strategy scholars interested in capturing cognition are letters to shareholders in companies' annual reports, official documents that reflect beliefs at the forefront of decision-makers' understandings (Nadkarni & Barr, 2008). However, the empirical studies in this dissertation clearly show how other types of written or verbal accounts may equally provide rich and detailed insights regarding individuals' cognitive interpretations. Specifically when letters to shareholders are not available (Chapter 2), when other textual documents may supplement these letters to shareholders and offer added value (Chapter 3), or when letters to shareholders are not the most relevant sources to study (Chapter 4), alternative accounts providing written or verbal statements are needed to enrich the case studies under development. In fact, the study of such accounts offers new research opportunities.

In Chapter 2, apart from interviews, a most valuable source of information were the blogposts and presentations the entrepreneur had written and given over the years. Following Barr and Huff (1997), I posit that the main advantage of including such data sources is that such 'strategy texts and talk' constitute a real-time forum through which actors articulate their cognitive interpretations. As such, in his blogposts the entrepreneur articulated evolving cognitive interpretations of the business environment, his portfolio of ventures, his use of resources. Hence, by including such accounts, a more elaborate and longitudinal understanding was developed by myself and my co-authors regarding the entrepreneur's evolving cognition and learning processes related to resource orchestration. Potential issues of retrospective bias following the interviews, were significantly reduced. Likewise, in Chapter 3 statements originating from essays, columns, articles, and debates were added to supplement the annual reports with letters to shareholders. Again, such data sources offered a real-time and very rich account reflecting the cognitive interpretations of the actors involved, thus allowing us to trace patterns and evolutions over time (which we would not have been able to reveal when limiting ourselves to the study of letters to shareholders and annual reports). In Chapter 4, we were able to grasp an ongoing debate regarding professional identity and its evolution by looking at

professional journal issues, as well as essays, columns, speeches and industry-wide conference texts produced by industry professionals during a longer period characterized by industry change. It were in fact these rich accounts reflecting the ongoing debate on professional identity, that offered us the research opportunity to connect strategic industry change and identity transformation processes.

While searching, collecting, managing, and analyzing such rich accounts can be challenging, as well as the overall development of in-depth case studies, the use of rich research methods ought to prove vital in the development of future studies on cognitive interpretations. Specifically, as a growing stream of strategy research focuses on strategy as practice whereby the study of language (i.e. framing contests, narratives, discursive construction, etc.) increasingly comes into play (Vaara & Whittington, 2012), the use of rich and in-depth research methods seems critical to advance strategic management theory.

5.3. GENERAL CONCLUSION

How does cognition impact strategic decisions and outcomes? How do entrepreneurs, managers, and professionals interpret and act upon disruptive changes and the opportunities they bring forth? The findings in this dissertation emphasize that individuals' cognitive interpretations of themselves and their environment impact strategic decision-making and hence, strategic outcomes such as strategic inertia, strategic change, and strategic expansion. How individuals interpret and frame strategically relevant issues, including resource allocation and capability development, technological innovation, and identity-related issues, matters. Employing rich research methods, this dissertation sheds light on an entrepreneur's understanding of resource orchestration processes across an expanding venture portfolio, decision-makers' evolutionary process of framing strategic change, and professionals' evolving interpretations of professional identity in light of strategic industry change. As such, it advances strategic management theory on strategic change, strategic inertia and strategic expansion in industries in flux, by addressing a range of strategically relevant processes underlying strategy making in changing contexts.

5.4. REFERENCES

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