JYU DISSERTATIONS 445

Khoa Nguyen

Adding Context into Competitive Dynamics Research

Strategy and Evolution in the Global Paper and Pulp Industry

JYVÄSKYLÄ UNIVERSITY
SCHOOL OF BUSINESS AND ECONOMICS

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Tuomo Takala
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Ville Korkiakangas
Open Science Centre, University of Jyväskylä

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ABSTRACT

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Competitive dynamics research has provided useful insights regarding how firms' actions and reactions affect competition, competitive advantage, and performance outcomes. Despite these rich insights, the competitive dynamics literature has tended to focus on the action- and firm-specific aspects of competition, leaving unexplored the broader context that may strongly influence firms' competitive behavior.

To begin to address such a challenge, I build on the evolutionary approach to firms' competition, through which I explore the implications of integrating spatial, historical, and temporal contexts to competitive dynamics research. Institutional and extra-institutional environments (the spatial context) and their changes through time (the temporal context) influence a firm's competitive behavior through its decision-makers' mental model. Competitive behavior, the corresponding performance outcomes, and their feedback (the historical context) in turn trigger change at the higher environmental levels in a mutually reinforcing manner. Such integration helps advance contextualized explanation of variations in firms' competitive behavior and performance.

The dissertation comprises an introductory chapter and four essays. The introductory chapter discusses the current under-contextualized problem in competitive dynamics research and calls for an integration of the broader contextual dynamics and firms' competitive behavior. Essays I and II explore patterns of firms' competitive behavior and performance outcomes in different evolutionary contexts. Essay III studies linguistic responses to contextual changes and behavioral mechanisms that drive language-based competitive behaviors. Essay IV considers competitive behavior as responses to contextual changes across factor-product markets and provides an evolutionary framework on preceding and succeeding competitive behavior.

Overall, the dissertation complements the extant competitive dynamics stream by offering a more in-depth understanding of the interaction between context and competition. It also hints at the benefit of exploring further the dynamic interplay between firms' institutional and extra-institutional environments, managerial cognition, competitive behavior, and strategic successes. The four essays contribute to the development of deep insights into how firm-level competitive behavior emerges and evolves according to different contextual dynamics.

Keywords: context, competitive dynamics, new institutional economics, strategic renewal, firm exit, fs/QCA, event structure analysis, upper echelons, language game, speech act, pulp and paper industry, demand-driven strategies, competitor identification, competitor analysis

TIIVISTELMÄ (ABSTRACT IN FINNISH)

Nguyen, Khoa
Kontekstin lisääminen kilpailudynamiikan tutkimukseen: strateginen evoluutio globaalissa paperi- ja selluloosateollisuudessa
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Kilpailudynamiikan tutkimus tarjoaa runsaasti hyödyllistä tietoa siitä, miten ja miksi yritysten toiminta ja reaktiot vaikuttavat kilpailuun, kilpailuetuun ja tuloksiin. Aiheeseen liittyvässä kirjallisuudessa on keskitytty kilpailun toiminta- ja yrityskohtaisiin puoliin ja jätetty vähemmälle huomiolle sellaisia tärkeitä laajempia yhteyksiä, jotka voivat vaikuttaa huomattavasti yritysten kilpailukäyttäytymiseen.

Lähestyn tätä haastetta yritystenvälisen kilpailun ja evoluution näkökulmasta ja tutkin, mitä tapahtuu, kun tilalliset, historialliset ja ajalliset kontekstit yhdistetään kilpailudynamiikan tutkimukseen. Erityisesti institutionaaliset ja ulkoinstitutionaaliset ympäristöt (tilallinen konteksti) sekä niiden vähittäiset muutokset (ajallinen konteksti) vaikuttavat yrityksen kilpailukäyttäytymiseen päättäjien ajatusmallien kautta. Kilpailukäyttäytyminen, vastaavat tulokset ja niihin liittyvä palaute (historiallinen konteksti) puolestaan käynnistävät muutoksen ylemmillä ympäristötasoilla, vastavuoroisen vahvistavalla tavalla. Tämä integraatio auttaa löytämään kontekstuaalisen selityksen yritysten kilpailukäyttäytymisen ja suoriutumisen vaihteluille.

Väitöskirja koostuu johdantokappaleesta ja neljästä esseestä. Johdantokappaleessa käsitellään kilpailudynamiikan tutkimuksen nykyistä vähäisen kontekstuaalisuuden ongelmaa ja nostetaan esiin tarve liittää yhteen laajempi kontekstuaalinen dynamiikka ja yritysten kilpailukäyttäytyminen. Esseissä I ja II tutkitaan yritysten kilpailukäyttäytymisen malleja ja toiminnan tuloksia erilaisissa evoluutioyhteyksissä. Essee III tarkastelee kontekstuaalisten muutosten aiheuttamia kielellisiä reaktioita sekä käyttäytymismekanismeja, jotka ohjaavat kieleen pohjautuvaa kilpailukäyttäytymistä. Esseessä IV pohditaan kilpailukäyttäytymistä reaktiona kontekstin muutoksiin tuotannontekijä- ja tuotemarkkinoilla sekä luodaan evolutiivinen viitekehys edeltävästä ja seuraavasta kilpailukäyttäytymisestä.

Kaiken kaikkiaan väitöskirja täydentää kilpailudynamiikan nykytutkimusta aiempaa perusteellisemmilla kontekstin ja kilpailun välisen vuorovaikutuksen analyyseillä. Siinä viitataan myös hyötyihin, joita yritysten institutionaalisen ja ulkoinstitutionaalisen ympäristöjen, johtamiskognition, kilpailukäyttäytymisen ja strategisen menestyksen välisen dynaamisen vuorovaikutuksen lisätutkimus toisi mukanaan. Väitöskirjan neljä esseetä luovat pohjaa syvällisille oivalluksille siitä, kuinka yritystason kilpailukäyttäytyminen syntyy ja kehittyy erilaisten kontekstuaalisten dynamiikkojen mukaisesti.

Asiasanat: konteksti, kilpailudynamiikka, uusi institutionaalinen taloustiede, strateginen uudistuminen, yrityksen lopettaminen, fs/QCA, tapahtumarakenneanalyysi, johtoporras, kielipeli, puheakti, sellu- ja paperiteollisuus, kysyntään perustuvat strategiat, kilpailijoiden määrittäminen, kilpailija-analyysi

Author	Khoa Nguyen Jyväskylä University School of Business and Economics University of Jyväskylä khoa.n.d.nguyen@jyu.fi ORCID 0000-0001-5929-526X
Supervisors	Professor Juha-Antti Lamberg (Supervisor-in-charge) Jyväskylä University School of Business and Economics University of Jyväskylä Dr. Mirva Peltoniemi, Senior Researcher Jyväskylä University School of Business and Economics University of Jyväskylä
Reviewers	Associate Professor Robin Gustafsson Aalto University Associate Professor Anders Melander Jönköping International Business School
Opponent	Associate Professor Robin Gustafsson Aalto University

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The journey has been filled with a "configuration" of feelings and emotions from days and nights of data collection, to figuring how to code the program running the model estimation, to writing the manuscript, to the joy of having the papers accepted to conference presentations and of course of receiving a positive decision from the journal submission (even though it is a revise-and-resubmit decision, good enough).

A lot of times, the question that I have received from friends that why I embarked on this Doctor of Science journey. My reason is simple. I want to challenge my intellectual capacity. Simply put, the process has taught me how to think, how to ask questions, and how to find the answers. This is the quest of knowledge creation.

As the readers of this dissertation, you may wonder why I chose "context" as the main topic. I was trained as a real estate professional, back in the date of my bachelor studies. "Location, location, location". It is the phrase that we learned in our real estate studies. It implies that the location of a building is the most important factor that decides its value. Therefore, the idea of spatial differences leading to variations in pricing triggers the thinking that how context, in general, affects inter-organizational competition and organizational successes. Please join me to further explore the role of context in this dissertation. However, before that, I dedicate the second half of this section to thank key persons, who have accompanied me in this challenging but rewarding journey.

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Khoa Nguyen

LIST OF ESSAYS

This doctoral dissertation consists of an introductory chapter and four essays:

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Essay I: Nguyen, Khoa N.D., Peltoniemi, Mirva, and Lamberg, Juha-Antti. ”Strategic renewal: Very hard, nearly impossible”. In the second round of revise-and-resubmit to *Long Range Planning*. Earlier versions of the paper have been presented at the European Academy of Management (EURAM) 2018 conference in Reykjavík, the 35th EGOS Colloquium 2019 in Edinburgh, the 79th annual meeting of the Academy of Management 2019 in Boston, and accepted at the DRUID21 conference in Copenhagen.

Essay II: Nguyen, Khoa N.D., Ojala, Jari, and Lamberg, Juha-Antti. ”Why do large firms make an exit?”. Unpublished manuscript. Earlier versions of the paper have been presented at the European Business History Association (EBHA) 21st Annual Congress in Vienna and the 79th annual meeting of the Academy of Management 2019 in Boston.

Essay III: Nguyen, Khoa N.D., and Nokelainen, Tomi. ”Alert! Treating language game seriously in the competitive interaction: Evidence from the global pulp and paper industry”. Unpublished manuscript. Earlier versions of the paper have been presented at the Industry Studies Association (ISA) annual conference 2019 in Nashville, the European Academy of Management (EURAM) 2021 conference, the 81st annual meeting of the Academy of Management (AoM) 2021, and the 2021 Strategic Management Society (SMS) Annual Conference.

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AUTHOR’S CONTRIBUTION

Essay I: Nguyen, Khoa N.D., Peltoniemi, Mirva, and Lamberg, Juha-Antti. “Strategic renewal: Very hard, nearly impossible”.

Project lead. All authors contributed to the study conception, design, and development of the research idea. Main responsibility in all aspects of the study. In charge of writing the first draft of the manuscript.

Mirva Peltoniemi critically revised the work. Both Mirva Peltoniemi and Juha-Antti Lamberg contributed significantly to the introduction and discussion sections.

Essay II: Nguyen, Khoa N.D., Ojala, Jari, and Lamberg, Juha-Antti. ”Why do large firms make an exit?”

Project lead. All authors contributed to the study conception, design, and development of the research idea. Main responsibility in material preparation, method selection, data collection, management, and analysis. Significant contribution to all other aspects of the study, such as writing the theory, data, method, and results sections.

Jari Ojala contributed significantly to our understanding of the industry as the research context and critically commented on the work. Juha-Antti Lamberg contributed significantly to the introduction and discussion sections.

Essay III: Nguyen, Khoa N.D., and Nokelainen, Tomi. ”Alert! Treating language game seriously in the competitive interaction: Evidence from the global pulp and paper industry”.

Project lead. All authors contributed to the study conception, design, and development of the research idea. Main responsibility in all aspects of the study. Tomi Nokelainen contributed significantly to the development of speech acts typology, discussion, and conclusion sections.

FIGURE

TABLE

CONTENTS

1 INTRODUCTION

Since the late 1980s, competitive dynamics has emerged as a noteworthy stream of research within strategic management (e.g., Baum & Korn 1996, Baum & Singh 1996, Baum & Korn 1999, Baum & Greve 2012, Bowers et al. 2014, Chen & Miller 2012, Chen & Miller 2015, Greve 1996, Ketchen et al. 2004, Silverman & Baum 2002, Smith et al. 1992, Smith et al. 2001). Competitive dynamics research is interested in elucidating the exchange of competitive actions between competing firms, and how these interactions influence firms' performance outcomes and vice versa (Chen & MacMillan 1992, Ketchen et al. 2004, Lamberg et al. 2009, Smith et al. 1991).

Originating from Schumpeter (1950) and the Austrian School of economics (Jacobson 1992, Young et al. 1996), the main purpose of competitive interactions is to maximize short-term relative advantages over competitors. Such advantages, for example, can be in terms of market share (Ketchen et al. 2004) and access to valuable resources (e.g., Capron & Chatain 2008) as well as minimizing adverse retaliations by competitors due to the focal firm's actions (e.g., Chen 1996, Chen & Miller 1994, Gielens et al. 2008). As a result, competitive dynamics research has mostly operated at the fine-grained level with a preoccupation with action/reaction- and firm-specific studies.

This is evident from the basic unit of analysis, theoretical mechanism, and the under-contextualized nature of the research stream. The basic unit of analysis, following the competitive dynamics perspective, includes concrete and detectable competitive actions/responses (Smith et al. 2001) and the streams of actions or repertoires taken by firms (Ferrier 2001, Rindova et al. 2010). Dynamic consideration in competitive dynamics is traditionally between two firms with the emphasis on the notions of duality and relativity (e.g., Bergen & Peteraf 2002, Chen 1996, Peteraf & Bergen 2003). In addition, theoretical mechanisms that explain interfirm competition in competitive dynamics streams are also action- and competitor-specific. Indeed, the AMC (awareness-motivation-capabilities) framework (Chen et al. 2007, Livengood & Reger 2010) has been widely employed in the competitive dynamics tradition to explicate the key behavioral drivers of a firm's actions and responses. While not every study on firms' competitive behavior and performance explicitly adopts the AMC framework, a majority of them still share two key components: the managerial interpretation and motivations, and firm capabilities. In brief, a firm will not be able to act or respond unless its decision-makers are aware of the information of such an attack or counter-attack, being motivated and capable of undertaking competitive moves. Thus, theorizing of competitive behavior in competitive dynamics is "micro" in nature because competitive behavior can be seen as a product of intentions, perceptions, and motivations of the organizational actors (Chen & Miller 2012: 163).

Furthermore, except for some studies (e.g., Lamberg et al. 2016, Livengood & Reger 2010, Miller & Chen 1996), most competitive dynamics literature is still "under-contextualized" (Chen & Miller 2012: 147). Although researchers in competitive dynamics acknowledge some connection between contextual attributes and firms' competitive behavior, in most of the cases the focus is still on firm-level attributes. These are organizational characteristics (e.g., size, age, bureaucracy, multi-market presence, and slack resources) and managerial characteristics (e.g., top management team dynamics, experience, background, and cognition) (for reviews see Chen & Miller 2012, Smith et al. 2001).

Nevertheless, changes in external environment, megatrends (e.g., globalization, borderless communication), and growing economic forces (e.g., more involvement by stakeholders, governmental and non-governmental actors) have altered and broadened the competitive environment (Markman et al. 2009), and hence started exposing the limitations of the conventional action-based approach of competitive dynamics research. For example, the possibility of international diversification leads to competition across various geographical markets. Firms in Vietnam face a different institutional environment from their counterparts in Europe and North America. Thus, their competitive behavior is to some extent constrained and enabled by the institutions and the markets where firms operate and compete.

In addition, the "dynamics" in competitive dynamics research appears referring to the interactive nature of competition rather than the temporal consideration that economists tend to study (Chen & Miller 2012: 178). Indeed, the basic meaning of "dynamic" refers to a process that is continuously changing, growing, or developing or the set of forces that exist in a situation, especially a relationship, and that affect how it changes or develops (Merriam-Webster 2021). Along the same line, in this dissertation, "dynamic" also points to the ever-changing/growing/developing nature of the interplay between firms' institutional, extra-institutional environments, managerial cognition, competitive behavior, and strategic successes. Such a changing nature not only refers to spatial variations (e.g., changes due to geographical differences) but also temporal variations (e.g., changes across time). While it is acknowledged that scant research has taken into account the historical perspective of competitive dynamics (e.g., Kilduff 2019, Lamberg et al. 2009) or employed sequencing methods considering sequences of actions, that is, the rhythm of the firm (e.g., Ferrier 2001, Rindova et al. 2010), time-specificity is almost missing from the stream.

Therefore, firms' competitive behavior tends not to reflect broader contextual dynamics, in particular the variation in the historical, socioeconomic, and institutional environments in which firms are embedded. Consequently, our theoretical understanding of the mechanisms that connect environmental stimuli and firms' competitive behavior has remained limited. In that sense, explanations of firms' competitive behavior call for the integration of "social time" and "social place" (Abbott 1998) , i.e., the spatial-historical-temporal context.

To begin to address such a challenge, I largely build on the evolutionary perspective (e.g., Aldrich 1999, Baum & Singh 1994, Levinthal 1992, Murmann et al. 2003, Nelson & Winter 1982) regarding firms' competition, through which I explore the implications of integrating spatial, historical, and temporal contexts to competitive dynamics research. My evolutionary account focuses on how firms compete, following the changes in the historical, socioeconomic, and institutional environments. In particular, the external environment, including extra-institutional and institutional contexts (the spatial context) and their changes through time (the temporal context) influence a firm's competitive behavior through its decision-makers' mental model. Competitive behavior, the corresponding performance outcomes, and their feedback (the historical context) in turn trigger change at the higher environmental levels in a mutually reinforcing manner. Such a perspective helps advance contextualized explanation of firms' competitive behavior and performance variations among different firms operating in different contextual settings.

The dissertation comprises an introductory chapter and four essays of a strongly contextualized nature. Instead of just looking at action-response dyads, as in the competitive dynamics research tradition, the dissertation expands to take into account contextual dynamics and wider causal networks. Overall, the dissertation complements the extant competitive dynamics stream by offering a more nuanced understanding of the interaction between contexts and competition. It also hints at the benefit of exploring further the dynamic interplay between firms' institutional and extra-institutional environments, managerial cognition, competitive behavior, and strategic successes. The four essays contribute to the development of deep insights into how firm-level competitive behavior emerges and evolves according to different contextual dynamics.

The rest of the introductory chapter is structured as follows. Section 2 articulates the definition of context. Section 3 discusses an evolutionary approach to understanding the dynamic configuration of firms' competitive behavior, and the complex interplay between such behavior, the corresponding outcomes, and the changes in the external environment. This section also outlines the theoretical framework of the dissertation. Section 4 reviews briefly the global pulp and paper industry as the main empirical context of the dissertation. Section 5 presents an overview of the four essays. Finally, concluding remarks, implications, and future directions are discussed in Section 6.

2 WHAT IS CONTEXT?

For the last two decades, there has been growing attention among scholars in management and organizational studies to account for context in explaining organizational phenomena (e.g., Griffin 2007, Johns 2006, Rousseau & Fried 2001, Welter et al. 2019, Whetten 2009). Derived from a Latin root, "context" carries a meaning of knitting together to make a connection (Rousseau & Fried 2001). In management literature, Cappelli and Sherer (1991: 56) define context as "the surroundings associated with phenomena which help to illuminate those phenomena" while Mowday and Sutton (1993) characterize context as stimuli in the external environment. Johns (2006) goes into detail by portraying context as situational opportunities or constraints that affect organizational behavior.

While possible facets of context may include the who, where, and when (Whetten 1989), in studying context for competitive dynamics research I focus the attention on the "where" and "when" aspects. Indeed, the rules for competitive interaction do change dramatically from one time and place to another. We make sense of competitive interactions by considering where and when they take place. The "who" dimension, on the other hand, refers to the individual managers and their organizations, who are influenced by contexts. In consequence, firms' competitive behavior, emergence, and interaction with the resulting outcomes are embedded in and defined by specific environmental settings. This notion emphasizes that context can become an important part of our theoretical understanding of competitive behavior instead of simply serving as a background for empirical analysis. In other words, context becomes part of the explanation for competitive behavior.

In the field of organizational research, evolutionary and institutional theory scholars have made deliberate efforts to engage in particular with the spatial-historical-temporal context. Studies in the evolutionary (e.g., Nelson & Winter 1982, Nelson 2002) and institutional economics literature (e.g., North 1990, 2005) look at the role of institutions and the interactions between these institutions and firms' competitive behavior, and thus highlight the notion of path dependence (see also Brunninge & Melander 2016, Lamberg et al. 2016), the importance of institutional change, and the systemic nature of evolutionary processes. For instance, the emergence and evolution of competitive behavior have been documented as strongly influenced by the focal firm's institutional and historical context as well as its prior behavior (e.g., Granovetter 1985, Lamberg et al. 2016, Zenger et al. 2000).

The "where" (or spatial) perspective points to the institutional and social contexts in the form of local traditions and norms that impose an impact on the "who". The "where" context is often referred as to the external environment in the management literature. For instance, contingency theory proposes that performance outcomes are the result of the fit between the organization's external environment and internal organizational arrangements (Lawrence & Lorsch 1967, Volberda et al. 2012, for a review, see Van de Ven et al. 2013). Evolutionary scholars suggest that there may exist an inevitable intertwining between organizations and environments (Aldrich 1999). Along the same lines, the co-evolutionary perspective also posits that firms co-evolve with changes in the environment (Baum & Singh 1994, Lewin et al. 1999, Volberda & Lewin 2003). Through his work on environment munificence, Castrogiovanni (1991), conceptualizes the environment at five different levels. The lowest level constitutes a specific resource pool that a given firm needs to employ. Studies of resource dependence tend to operate at this level. For example, Sherer and Lee (2002) integrate resource dependency and institutional theories to examine how resource scarcity motivates, and legitimacy enables, change. The next two middle levels consist of individuals and organizations (including customers, suppliers, and financial institutions) that a given firm interacts with in order to grow and survive. Above these three levels is the aggregation environment, which also encompasses interest groups and associations such as unions, trade associations, and customer-protection agencies. Environmental conceptualization at this level, following economists, is similar to the external forces in Porter's (1980) model in analyzing industry competition and profitability. Ecology scholars see this aggregation environment level as the ecological community, in which a population of organizations operate (e.g., Carroll 1984), and the competition in such an organizational population may depend on the "spatial variations in its environment" (Carroll & Hannan 2000: 222). At the highest level is the macro environment, which encompasses, in addition to the aggregation environment, extra-institutional factors such as the demographic, economic, social, political, and technological patterns and movements of a specific geographical area. These higher-level forces impose equally important influences on organizational characteristics and behavior. The environment, following Castrogiovanni's (1991) definition, effectively comprises two main components: the institutional environment (e.g., informal and formal legal and social structures) and the extra-institutional environment (e.g., technology, demand, demographics, social movements, geopolitical and natural environment) (Klein et al. 2019, Lewin et al. 1999, Mahoney 2005, Mowday & Sutton 1993, North 1990, Welter 2011, Williamson 2000).

More evidently, interest in the role of the institutional environment has recently proliferated, especially in the new institutional economics (NIE) literature. Such interest is partly motivated by the threat to firms' ongoing existence caused by failure in responses to changes not only in the general external environment but also in the institutional environment (Klein et al. 2019). The NIE perspective suggests that firms' competitive behavior is to a large extent embedded in the institutional environment and governance arrangements (Mantzavinos et al. 2004, Williamson 2000, Zenger et al. 2000). Accordingly, competitive behavior is not all about maximizing marketplace advantage, as seen in the competitive dynamics tradition, but instead is the result of an effort to gain legitimacy among other organizational actors. From this viewpoint, choices of the appropriate competitive behavior are based on social importance through conforming to the requirements of industry-level collective belief structures (e.g., Melander 2005), social expectations, and institutions. For instance, depending on the country-specific cultures or industries in which firms operate, certain types of competitive behavior are not recommended by the local institutional norms (Chen & Miller 2012). In the East, particularly China, stealthy and indirect competitive attacks might be socially acceptable (Greenwood et al. 2008).

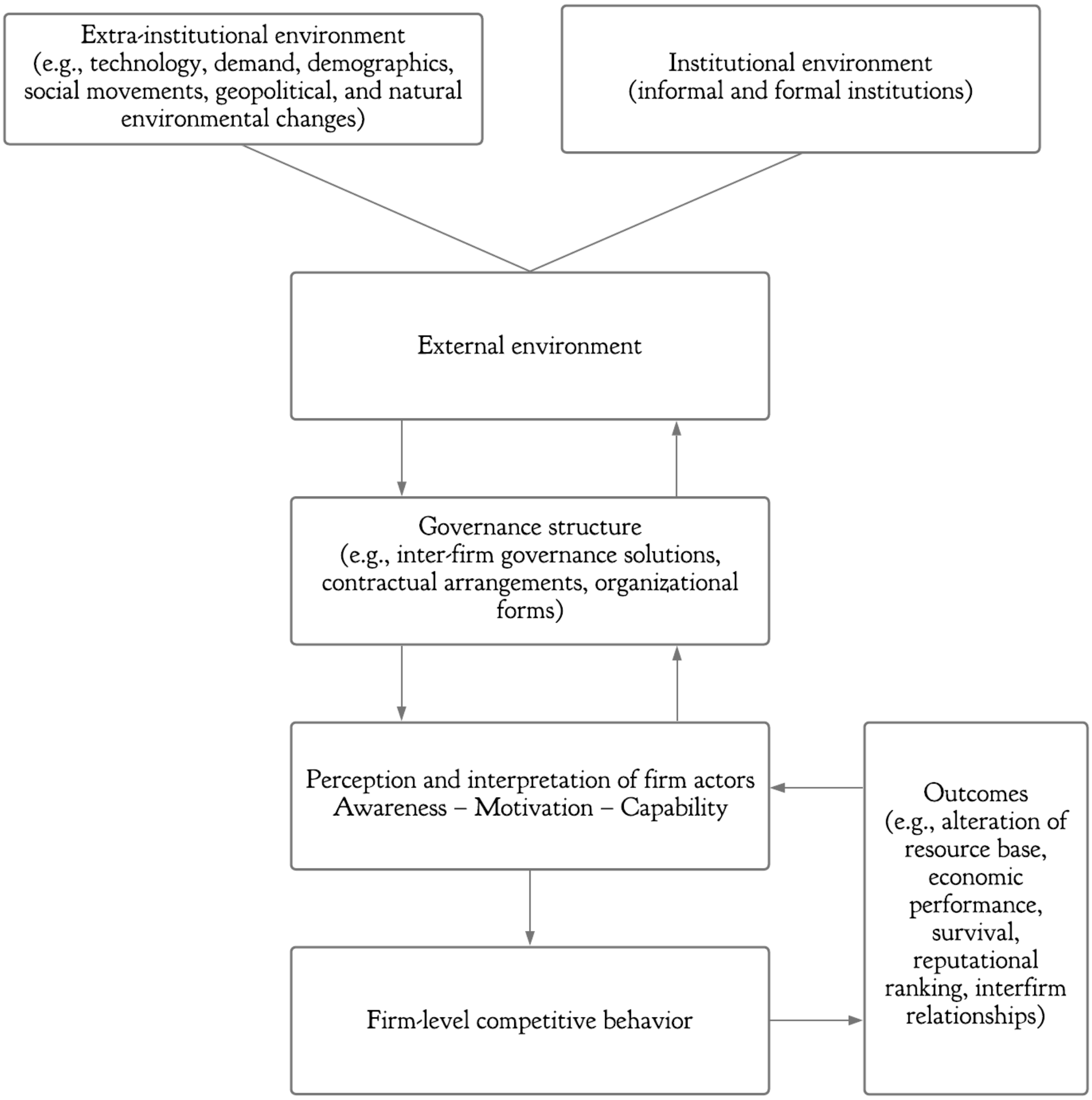
The "when" dimension constitutes two components: history and time. The historical context considers the legacy and historical influences on the firms and competitive actors (the "who") while the temporal perspective refers to the changes in contexts over time (Welter 2011). The impact of time on firms' founding and failure has been accounted for by ecologists as temporal variations (Carroll & Hannan 2000, Hannan & Freeman 1989) or by institutionalists as historical eras (Schneiberg & Clemens 2006). Additionally, a focal firm's competitive behavior is strongly influenced by the history of its prior relationships and interactions with others, and the corresponding outcomes (e.g., Kilduff 2019, Porac et al. 2002). For competitive dynamics research, I adopt the conception of historical and temporal context as a notion that captures specific historical periods characterized by unique configurations of institutional surroundings (Hiatt et al. 2009, Lander & Heugens 2017) as well as their changes over time (Welter 2011).

Taken all together, for the purpose of adding context to competitive dynamics research, I focus the attention on the competitive actors' evolutionary context, which covers spatial, historical, and temporal aspects and enables or constrains firm-level competitive behavior. The next section outlines the theoretical framework of the dissertation by using an evolutionary approach to understanding the dynamic configuration of firms' competitive behavior, as well as the complex interplay between such behavior, the corresponding outcomes, and the changes in the external environment.

3 THEORETICAL FRAMEWORK

The framework (see Figure 1) that I articulate in this introductory chapter is inspired by Williamson (2000), Mantzavinos et al. (2004), Lewin, Long, and Carroll (1999), and Lamberg et al. (2016). The framework's underlying assumption follows the co-evolutionary perspective, which suggests that firms co-evolve with their environment and that managerial adaptation and environmental selection take place simultaneously and influence each other (Baum & Singh 1994, Cantwell et al. 2010, Lewin et al. 1999, Volberda & Lewin 2003). The aim of the framework is to acknowledge the context in which competitive interaction takes place. In so doing, the framework presents an evolutionary account providing a broader and richer context-based explanation of firms' competitive behavior. That is how firms' competitive behavior is embedded and must be understood within a context ("where" and "when"). Substantial and unexpected changes in the external environment may result in changes in the firm's existing governance structure, which in turn influence the firms' competitive behavior and performance. Adopting the "cognitive approach to institutions" (Mantzavinos et al. 2004: 77), the framework highlights the impact of the institutional environment (Mantzavinos et al. 2004, North 1984, 1990, 1991), the extra-institutional environment (Lewin et al. 1999), and the governance structure (Coase 1992, Hart & Holmström 1986, Williamson 1991) on firm's competitive behavior through shared mental models of organizational actors. The corresponding outcomes and changes in the higher contexts through time also constrain and enable the future's competitive behavior, which in turn shapes the changes at the higher levels. The main components in the framework include the external environment (institutional and extra-institutional ones) and governance structure in which the firm is embedded, the firm's managerial cognition as the mental filter, the firm's competitive behavior, and the corresponding outcomes. Everything at the lower level happens in the context of the layers above. In the comprehensiveness of time, while there are reciprocal interactions between the higher and lower levels in the framework, feedback (as signaled by the reverse arrows) may be more difficult and take longer time at higher levels (e.g., Granqvist & Gustafsson 2016). The feedback process from outcomes also runs through the organizational actors' minds.

FIGURE 1 Framework showing competitive dynamics as embedded within a broader spatial-historical-temporal context



3.1 The External environment

Following the articulation of the context in Section 2, the top layers of Figure 1 represent the external environment in which firms are embedded. They include the institutional and extra-institutional contexts. While the extra-institutional environment generally includes technology, demand, demographics, social movements, and geopolitical and natural environmental changes, the institutional environment refers to the informal and formal legal and social structures in which firms operate (Lewin et al. 1999, Mahoney 2005, North 1990, Williamson 2000).

Institutions are the rules of the game, governance structure is the play of the game (Williamson 1998), and organizations are the players. Firms are just examples of economic organizations; other players could be political parties (political organizations) or universities (educational organizations). Thus, the choice of players' behavior is not conceived in a vacuum but is informed by a particular social, historical, and temporal context. Consequently, what types of firm-level competitive behavior prevail during the process of competition depend largely on the institutions that are mainstream at the time (Mantzavinos et al. 2004).

Informal and formal institutions constitute the institutional environment. Following North (1991: 97), institutions are "the humanly devised constraints that structure political, economic, and social interactions. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights)." North also argues that "institutions consist of a set of constraints on behavior in the form of rules and regulations; and, finally, a set of moral, ethical, behavioral norms which define the contours and that constrain the way in which the rules and regulations are specified and enforcement is carried out" (North 1984: 8). Hence, the rules of the game, as reflected through institutions or the institutional environment, shape and restrict the economic actors' behavior at both organizational and individual levels (North 1990). Changes of such established procedures in the institutional environment occur at a relatively gradual rate, which can be decades or centuries, except in the case of massive disruption, such as revolutions, wars, and other significant crises.

Beyond the institutional environment are the extra-institutional factors. While the influence of the institutional environment on a firm's governance structure is informed following the NIE, possible examples of extra-institutional influences on a firm's governance arrangements may include technological advancements and natural disasters. For instance, several firms in the 1920s became more diversified and decentralized due to technological advances in telecommunication and transportation (Chandler 1962). Alternatively, after the Tohoku earthquake and tsunami in 2011, the Tokyo Electric Power Company (TEPCO) had to go for partial nationalization and include government officials in the firm's top management team and board. Such modification of the governance arrangements could be seen as the result of TEPCO facing potential liability claims for nuclear safety negligence and being in need of cash financing from the Japanese government (Obe 2012).

Furthermore, some extra-institutional contexts also co-evolve with the institutional ones (Lamberg et al. 2012, Lewin et al. 1999), which sequentially influences the focal firm's governance structure. For example, such demographic changes as population aging and migration can affect the domestic market potential and labor supply. At the same time, national norms and cultures shape employment relationships. When combined with certain educational policies, these can then influence the availability of the relevant educated workforce. To consider another example, the rise of environmentalism due to climate change is leading to modifications in international climate-change agreements, which may then entail the alteration of a firm's governance structure (e.g., procurement protocols, employment relationship, corporate social responsibility, environmental and labor regulations).

Accordingly, particular institutional arrangements together with extra-institutional characteristics may lead to different patterns of governance arrangements between organizational players, such as creditors, shareholders, board members, the CEO, managers, suppliers, employees, and unions, which may in turn shape firms' competitive behavior and performance outcomes. Adopting an appropriate governance structure and the corresponding organizational form is therefore crucial to support the existence of the firm (Klein et al. 2019). Within a particular governance structure, firms are subject to contractual ties with a certain set of stakeholders with different interests, and any change or violation of such contracts would be very costly or impossible (Aoki et al. 1990, Nickerson & Silverman 2009). The governance structure of a firm defines "who is in and who is out" of the firm's internal decision-making process, and "who gets what parts of the jointly created value" (Klein et al. 2019: 14). Thus, firms can be seen as situated in a system (Hodgson 1998) or a network (Granovetter 1985) of contractual relationships with other firms and constituents. In such contractual environments, firms structure their activities and perform transactions following the rules embedded in the institutional environment while minimizing the transaction costs among players (Ketokivi & Mahoney 2015, Langlois & Foss 1999, Teece 1992, Williamson 1991).

It is important to note that governance structures are generally adopted in certain historical settings. According to Mantzavinos et al. (2004: 80), "even if we did have it [the governance structure] right for one economy, it would not automatically be right for another; and even if we have it right today, it will not necessarily be right tomorrow." An existing governance structure might become obsolete when the context in which it was conceived is no longer relevant (Argyres & Liebeskind 1999). Due to changes in the external environment, important stakeholders might renegotiate the firm's governance structure to ensure its survival (e.g., Rajan 2012, Reich 1984). Furthermore, governance structures are also path dependent, which means that the current structure is a sticky outcome of the firm's past governance choices. At the same time, it constrains what kinds of governance structures can be adopted in the future (Argyres & Liebeskind 1999). Finally, a firm's governance structure and its corresponding governance activities (e.g., board meetings, financial authority limit and approval protocols) should be distinguished from its competitive behavior, which comes about within the framework set by the higher-level governance arrangements (Klein et al. 2019).

3.2 Managerial perception, interpretation, and firm-level competitive behavior

The importance of managerial and organizational cognition has received increasing attention among both academics and business managers since March and Simon's (1958) classic work. Since the early 1980s, its popularity and relevance have expanded in the field of strategic management (Porac et al. 2002, Thomas & Porac 2001). According to the cognitive perspective on competitive dynamics, competition is an interactive process in which managerial perceptions influence a firm's actions and interactions (e.g., Czakon & Czernek-Marszałek 2021, Marcel et al. 2011, Porac et al. 1989). Competitive actions, therefore, are the products of the intentions, perceptions, and motivations of organizational actors (Chen & Miller 2012, Kaplan 2011). A firm's competitive action is thus shaped by an iterative information-interpreting process.

Along with this line of assumption, Dill (1958, 1962) proposes that how organizations respond to the business environment depends on how key decision-makers interpret these external stimuli. Key decision-makers in firms are CEOs and the top management team, who are in charge of monitoring, sensing, and interacting with external opportunities and threats, and eventually make important strategic choices. Therefore, the environment is not purely external but can be considered endogenous to the interpretations made of that environment by managers. Interpretation is necessary because the environment includes complexities and uncertainties. It is also the result of the cognitive limits of managers, who use simplifying heuristics (also known as rules of thumb) to make sense of the environment (March & Simon 1958). Moreover, firm-level behavior should be viewed as the reflection of managerial thought, establishing a continuous and interweaving cognition-action relationship (Schon 1983). Thus, strategic formulation is better assessed as a relatively unstructured, highly iterative, sociopolitical process, which is carried out within managers' cognitive limits (Johnson 1987, Pettigrew 1985, Stubbart 1989). Mental models or frames of reference are the means that managers deploy to interpret the external environment (Daft & Weick 1984, Gavetti & Rivkin 2007).

The NIE perspective shares this argument. Organizational actors observe and interpret the stimuli through their mental models, and they shape their actions to reflect the institutional landscape in which their firms operate (e.g., Denzau & North 1994, Ingram & Silverman 2000, Mantzavinos et al. 2004, North 1990). This means that more emphasis should be given to the role of cognition, particularly the human factor, in making sense of the factors in the institutional, extra-institutional, and contractual environments, and shaping decisions on firms' competitive behavior. In fact, managerial cognition is implicitly captured in the AMC layer because there are perceptual elements in all three behavioral drivers of competitive behavior. Awareness implies perception of information, which drives motivation, and the firm only acts if its capability is perceived to be sufficient and the opportunity or threat makes it worth beefing up the capability and resource base (Chen & Miller 2012).

I use the concept "competitive behavior" instead of "competitive action". Competitive actions are concrete and detectable actions, as conventionally defined in extant mainstream competitive dynamics research (Chen & MacMillan 1992, Ketchen et al. 2004, Smith et al. 1991), while competitive behavior carries in itself a broader meaning covering both concrete actions and language-based competitive behavior. In particular, more recently, competitive dynamics has been conceptualized, following Wittgenstein (1953), as a "language game" (Rindova et al. 2004). According to this view, especially intense competitive interactions are primarily characterized by the use of different verbal communication by the contestants. More importantly, language-based competitive behavior, in some cases, also imposes competitive forces (Gao et al. 2017, Porter 1980) and hence should not be always considered as effortless "cheap talk" (Farrell & Rabin 1996) (Essay III). I consider competitive behavior as configurations of competitive actions and speech acts. Depending on the context, a configuration may include certain shares of actions and speech acts.

3.3 Outcomes of firm-level competitive behavior and feedback

Two important outcomes of firms' competitive behavior are the alteration of the resource base and performance outcomes.

First, firms can be differentiated on the basis of their resources and capabilities in different business functions (research & development, marketing, manufacturing) and their relative ability to allocate such resource requirements. Importantly, capability is a sufficient condition for competitive action (Chen et al. 2007). Firms evaluate whether their capability and resource base are superior or inferior relative to other firms' bases or sufficient for the competitive move. Subsequently, they may decide how to make use of or alter their capability and resource base accordingly, in order to proceed with the competitive move (Essay IV). The literature of dynamic capabilities suggests that firms develop and modify their resource and capability base over time (e.g., Ambrosini & Bowman 2009, Eisenhardt & Martin 2000, Helfat et al. 2007, Teece 2007, Teece et al. 1997, Verona 1999, Zahra et al. 2006). For instance, firms can leverage their existing capabilities to maintain their advantage. Furthermore, firms can create new capabilities or access external capabilities to advance their competitive position. Firms can also join forces to improve their strength and hence reduce their inferiority vis-à-vis another giant player. Finally, firms can release existing resources to avoid direct competitive pressure, such as cutting or deferring capital spending and unessential maintenance, reducing working capital, reducing staff, or divesting assets in a business unit when such a unit is no longer profitable or in line with the organization's broad strategies (Essays I and II).

Second, in addition to conventional performance outcomes as superior performance (Essays I and III), survival or exit (Essay II), another important outcome is the relative performance of a firm manifested by its reputational ranking (Essay IV). Following the macro-cognitive perspective on reputation (for reviews, see Pollock et al. 2019, Ravasi et al. 2018), reputation refers to "stakeholders' perceptions about an organization's ability to create value relative to competitors" (Rindova et al. 2005: 1033). This definition consists of two aspects – the degree to which a certain attribute of the firm is favorably evaluated (perceived quality) and the extent to which a firm earns collective recognition (prominence). Such a multidimensional definition not only captures the impact of the competitive behavior and information initiated from the focal firm but also emphasizes reciprocal social interactions between the various stakeholders and the firm itself (Fombrun 1996, Rindova et al. 2007).

Moreover, since firms within different spatial-historical-temporal contexts will differ in their competitive behavior, they may also subscribe to different performance measures. For instance, firms in Germany and Japan are likely to emphasize revenue growth, whereas those in the US tend to employ rates of returns on capital (Lewin et al. 1999). In such situations, reputational ranking may provide a contextualized measure for a more effective performance comparison because the resulted reputation is specific to the stakeholders that firms interact with, as well as the contexts in which firms compete.

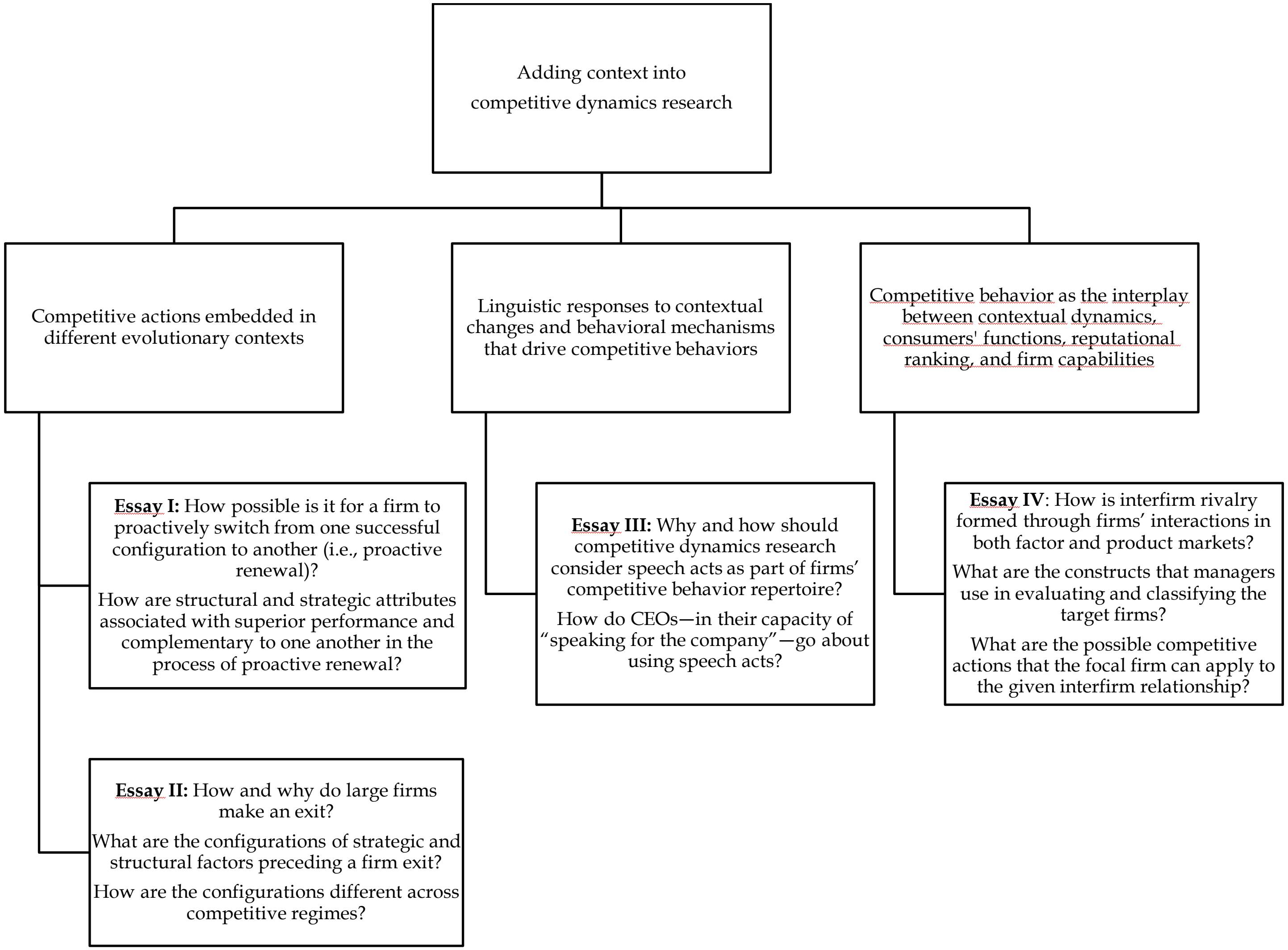
The emphasis on an alternative measure of firm performance is also in line with the call by Barney (2020: 5), who argues that "the field of strategic management needs to develop an empirically tractable measure of firm performance that acknowledges the role that individuals and organizations outside the boundaries of firms—stakeholders—have on their ability of firms to generate economic profits." Reputational ranking is arguably a broader manifestation of firm performance (e.g., economic performance). Economic factors such as size, profitability, market risk, and non-economic factors like public visibility shape the perceived reputational differences among firms (Fombrun & Shanley 1990). These rankings have been documented to affect the amount of public attention given to the products (from the firm of high status ranking in an industry) as well as their corresponding prices (Benjamin & Podolny 1999). Favorable reputation has also been suggested as a source of competitive advantage (Barney 1991, Hall 1992, Roberts & Dowling 2002) that boosts market share and profitability (Ferrier 1997). Similar to the evaluation of the firms' resource base, if firms are not contended with their current reputational rankings, they are motivated to lead the modification of competitive behavior. Such changes may, in the long run, become a source of institutional change.

Both perceived performance outcome and capability also shape the perception of interfirm relationships. Such perceived relationships in turn affect the choice of competitive behavior by the focal firm to improve its positional advantage relative to other rivals. In both cases, the history of a firm's competitive behavior and corresponding outcomes between it and its competitors forms certain expectations and affects subsequent strategic moves (Cattani et al. 2018, Fombrun 1996, Kilduff 2019, Porac et al. 2002). Through the managerial cognition, the modified capability and resource base, as an outcome of past firms' competitive moves, will again constrain the range and types of the firm's possible competitive behavior in the future (Page 2006, Winter 2006). There is also possibility that the development or creation of new capabilities and resources may call for a modified governance structure, because the current one becomes ineffective even under the prevailing institutional environment (Klein et al. 2019).

Overall, the theoretical framework proposed in this section offers a starting point to explore the implications of integrating spatial, historical, and temporal contexts to competitive dynamics research. While the individual essays pursue their specific research questions, the overarching aim of the dissertation is to study firm-level competitive behavior in response to the changes in institutional and extra-institutional environments across different regimes, as well as their corresponding performance outcomes. Figure 2 illustrates the organization of the essays in addressing the overarching research objective of the dissertation.

All four essays aim to enrich the contextual, historical, and temporal orientation of competitive dynamics research. Both Essays I and II explore the patterns of firms' competitive behavior and performance outcomes in different evolutionary contexts. Essay III studies linguistic responses to contextual changes and behavioral mechanisms that drive language-based competitive behaviors. It expands competitive action repertoire to speech acts and explores the interrelationships between the CEO's psychological and biographical characteristics, the firm's performance, and the CEO's use of speech acts. Finally, Essay IV considers responses to contextual changes within wider contexts (covering factor-product markets) and provides an evolutionary framework on preceding and succeeding competitive behavior. Notably, the framework and derived model shed some light on how firms may formulate strategic actions based on their relative reputational ranking and capability parity against other competitors. At the same time, they can offer predictions regarding how different types of competitors are likely to behave in a certain context against the focal firm.

FIGURE 2 Organization of the essays



4 THE GLOBAL PULP AND PAPER INDUSTRY

The main backdrop for empirical analysis in this dissertation is the pulp and paper industry (PPI): Essay I focuses on the period 1989–2015, Essay II on 1979–2015, and Essay III on 2007–2017. Essay IV is a conceptual article, using the competition in the space transportation industry as an illustration.

The PPI is an attractive research context because since the 1970s it has experienced a maturity phase (Melander 2005: 93) while undergoing several changes in both the extra-institutional environment (e.g., technological advances, demand, demographics, global interdependence, and social movements) and institutional environment (e.g., trade policy, employment relationships, environmental and labor regulations). Therefore, the overarching studied period of 1979–2017 represents an interesting opportunity to unveil insights of what firms in the industry did to survive and thrive in such a time of high turbulence. The studied interval not only includes a phase of high level of competitive activities in the PPI (Lamberg & Ojala 2006) but also covers the transition from the end of the 20th century to the beginning of the 21st century, with several institutional shocks (e.g., the collapse of the Soviet Union in 1992, the formation of the EU in 1993, the 2008 financial crisis).

First, there had been a relatively strong correlation between the consumption of paper and economic growth for approximately 150 years (Järvinen et al. 2009). Nevertheless, such a linear relationship already ended in the 1990s in the USA and subsequently in other OECD (Organization for Economic Co-operation and Development) countries (Hetemäki & Mikkola 2005). The derailment of this correlation entailed dramatic changes in strategy and product portfolio management. It was possible that the growth in national and individual wealth had reached a certain saturation point, after which an increase in wealth did not further raise the consumption of paper (Järvinen et al. 2012a). An alternative explanation for such divergence might be attributed to the advances in information technology, which led to the transitions to digital media and paperless communication in most developed economies. Despite the drop in the consumption of paper, there has been a shift in focus from graphics to packaging, hygiene, and household paper products in the industry as a whole.

The shift in demand, especially packaging materials, is expected to continue during 2005–2050 though the growth spreads rather unevenly over different regions (Järvinen et al. 2012a). Moreover, demographic changes, such as massive population growth and migration in rapidly emerging countries in Asia and South America, also led to the opening of new markets and production areas. For example, Brazil and Chile have started leading pulp production in South America. These firms have heavily invested in technology to reap the advantages of nature resources and fast-growing eucalyptus plantations (Lima-Toivanen 2012).

Second, a series of economic turbulence since the early 1990s has forged integration and set global competition as a norm (Siitonen 2003). The PPI has therefore evolved, through several mergers and acquisitions as well as consolidations, into international competition between a few dominant firms in the early 21st century. The merger waves occurred in the USA first at the turn of the 20th century and again from the 1960s onwards. Europe witnessed similar concentration from the 1970s onwards. For example, a majority of firms that is, two-thirds of the largest PPI companies listed in the Pulp and Paper International Top 100[1] in 1979, made an exit by 2015. More interestingly, 95% of the exit cases are a result of mergers and acquisitions, leaving only 5% to bankruptcy (Essay II). The consolidation tended to go for vertical integration, in which firms moved forwards in the production chain, and were diversified into other new paper products. This trend has resulted in similar diversified and multi-divisional corporates since the 1970s (Lamberg & Ojala 2006, Toivanen 2012).

Third, the technological development of the PPI can be considered as evolutionary rather than revolutionary. As Chandler (1990: 113) suggested, "the technology of production was not complex enough to provide an incentive for a substantial investment in research and development" in the paper industry, as the common mode of competing in this industry has been exploitation-driven with the focus on efficient production. Process innovation and the introduction of new equipment (for instance, toward larger more efficient mills and the automation and computerization of production control systems) have been essential for achieving productivity growth (Lamberg & Ojala 2006). On the other hand, exploration-driven activities in the PPI pose a high level of risk, partly due to the high cost of initial investment and equipment's fungibility (Diesen 2007).

Fourth, reflecting the generic nature of heavy industries, such as the car industry, procurement and manufacturing in the PPI pose several uprising environmental and ethical issues. Together with the environmentalist social movement, this makes the consideration of institutional components, such as employment relationships and environmental and labor regulations, more relevant in studying firms' competitive behavior. This is especially the case for those activities that are related to new material (e.g., eucalyptus, recycled fiber), new products (e.g., biorefinery, wood-free paper grades), technological

[1] Before 1985, the Pulp and Paper International Top 100 ranking was determined according to the firms' consolidated sales from all activities and published annually in *Pulp and Paper International* magazine. After 1986, the ranking was based on the net sales of pulp, paper, converting, and merchant operations.

innovations (Diesen 2007, Lamberg et al. 2012, Ojala et al. 2006), and corporate social responsibility (i.e., initiatives to prevent pollution).

Finally, firms in the PPI have gone from being part of the self-regulated systems of cartels (Kuisma 1993) to global value integration (Järvinen et al. 2012b). For example, the PPI in Finland was strongly promoted, rather than constrained, by the Finnish government, especially throughout the 20th century. Foreign trade negotiations were to maintain Finnish PPI's competitive position in its major exports markets (Jensen - Eriksen 2007). Until the country's membership in the European Union in 1995, the legality of the PPI's sales and purchasing cartels and their self-regulation had never been put under scrutiny by the Finnish government (Jensen - Eriksen & Ojala 2015, Schröter 1996). The role of these national sales cartels was to buffer against market competition (1918–1995), and that of procurement cartels was to buffer against factor market competition and the higher cost of raw material (1950s–2002) (Lamberg & Peltoniemi 2020).

5 OVERVIEW OF THE ESSAYS

This section summarizes the research questions, employed data and methods, main results, and scientific contributions, as well as the managerial implications of the four essays. Table 1 presents a key summary.

TABLE 1 Summary of the essays

	Essay I	Essay II	Essay III	Essay IV
Research question	• How possible is it for a firm to proactively switch from one successful configuration to another (i.e., proactive renewal)? • How are structural and strategic attributes associated with superior performance and complementary to one another in the process of proactive renewal?	• How and why do large firms make an exit? • What are the configurations of strategic and structural factors preceding a firm exit? • How are the configurations different across competitive regimes?	• Why and how should competitive dynamics research consider speech acts as part of firms' competitive behavior repertoire? • How do CEOs—in their capacity of "speaking for the company"—go about using speech acts?	• How is interfirm rivalry formed through firms' interactions in both factor and product markets? • What are the constructs that managers use in evaluating and classifying the target firms? • What are the possible competitive actions that the focal firm can apply to the given interfirm relationship?
Theoretical background	• Strategic renewal literature • Configurational approach and the notion of complementarities	• Literature of firm survival and exit • Configurational approach	• Competitive dynamics literature • Theory of speech acts in philosophy • Upper echelons theory • Personality psychology	• Competitive dynamics literature, particularly competitive identification and analysis, and cognitive perspective on competitive dynamics • Demand-side strategy literature
Data	Archival material (news, abstracts, annual reports) of 208 firms that have been ranked at least once in the top 100-firm list	Archival material (news, abstracts, annual reports) from 1979 to 2015 of the top 100 firms of the PPI ranked in 1979[2]	• Conceptual sources • Speech acts data (letters to shareholders, interviews, and conference calls) and	• Conceptual sources • Archival data of the space transportation industry for the

[2] For clarification, data collections in Essays I and II were carried out differently. In Essay I, the data were collected from the 208 firms that have been ranked at least once in the top 100-firm lists in the PPI between 1989 and 2015. In Essay II, the data were from the 100 firms that were ranked in the 1979 PPI top-100 firm list. In particular, we first identified which firms were the 100 largest in 1979 and out of these 100 firms, which ones survived or exited after that year. Next, we reconstructed what constitutes the characteristics of those firms and what strategic actions they took before exiting or in order to stay viable until 2015.

	in the PPI between 1989 and 2015		biographical data from 19 CEOs of global pulp and paper firms between 2007 and 2017	illustration of the utility of the model
Methods	• Structural content analysis • fs/QCA • Event structure analysis	• Structural content analysis • fs/QCA	• Theorization, conceptual development and demonstration • Empirical exploration through structural content analysis, language-based measures of personality processes	Conceptual essay (theoretical framework, model, and illustration)
Main results and scientific contributions	• Demonstrating the difficulties in staying competitive in a market environment that changes dramatically from one regime to another; only a minority in our sample of firms engaged in proactive renewal and the majority performed reactive renewal. • Suggesting that the majority of success recipes appear very simple, including only a few causal conditions, and that complementarities among structural and strategic attributes are important for superior performance. • Highlighting the rare successful renewals follow a similar evolving path of resource-configuring activities, which underlines the	• Investigating the complex causal interrelationship between what firms are and what firms do, which eventually results in a firm exit by following the life paths of 100 largest firms in 1979. • Introducing interfirm competitive dynamics as part of the antecedents to exit. • Enhancing the understanding of exit archetypes: a limited scope of strategic alternatives as a consequence of complexity and the path-dependent nature of what firms are and what firms do.	• Presenting an initial attempt to bring the language school of competitive dynamics research to an equal footing with the traditional school in order to have a holistic and powerful theory of companies' competitive interaction and performance. • Laying the groundwork for rigorous and nuanced theorization about why and how companies use speech acts. • Shedding light on the interrelationships between CEOs' demographic characteristics, psychological attributes, firm performance (as a situational factor), and CEOs' speech acts tendencies.	• Reconceptualizing the formation of interfirm competition by offering balanced attention to both the supplier and consumer sides. • Developing a competitor identification and analysis model through the constructs of reputational ranking and capability parity. • Illustrating the utility of the model in the competition of the space transportation industry.

	importance of timing and pacing. • Advancing the configurational perspective in the field of strategic renewal • Combining event structure analysis as part of further case-level analyses to provide insights into configurational transitions, thereby revealing how renewal processes evolve over time.			
Practical implications	• Managers should be aware of the increasing complexity of the strategic content, and the complementary effects between organizational attributes. • Successful transformers added new activities to their strategic configuration of organizational attributes as the environment changed while hedging the risks of changes by maintaining old ones. • The few successful firms proactively built on the complementarities of the activities such as releasing unprofitable resources, boosting operational efficiency, innovation and product development, and securing	• Exit archetypes share the absence of product innovation or investment for technological leaps. • Being the largest firm and adopting a cost-leadership competitive strategy does not guarantee longevity, meaning that highly efficient firms also failed to survive as they became lucrative acquisition targets • Acquisition was arguably the preferred and more profitable exit choice compared to insolvency.	• Managers should not simply regard language-based competitive actions or responses as "cheap talks". • The use of speech acts, such as commissives, should be carefully considered if managers do not "walk the talk". • Managers can strategically use a configuration of concrete actions and speech acts in managing competitive interactions.	• Firms that possess capabilities comparable to the focal firm should be treated seriously because they are able to serve the same consumer functions without much modification of capabilities. • The conceptual framework and model of competitor identification and analysis encourage managers to broaden their perspective of the challenges facing their firms. These tools enhance both the predictions of and responses to competitive attacks. • The model can be used as a guide to track competitors' movement in the competitive

	market share in growing segments so that they are well-prepared for the next period's revenue generation.			landscape and identify new business opportunities.
Adding context into competitive dynamics research	The renewal patterns of configurations of firms' competitive behavior in a market environment that changes dramatically from one regime to another	The exit archetypes vary considerably across competitive regimes. A configurational approach, instead of general linear modelling, enables aggregation from idiosyncratic observations while maintaining an understandable link with the historical context under scrutiny.	The essay studies linguistic responses to contextual changes and behavioral mechanisms that drive competitive behaviors. It expands competitive action repertoire to speech acts and explores the interrelationships between the CEO's psychological/biographical characteristics, firm performance, and the CEO's use of speech acts.	• At a certain point in time, a focal firm may hold a portfolio of different interfirm relationships. The relationship between the focal firm and a competitor can change depending on the focal firm's advantage in relation to its competitor. • Competitive tension between the two firms will evolve on a continuous and dynamic basis. Beyond a certain point, however, the relationship changes. Competition, following this perspective, also concerns a question of time frame.

5.1 Essay I: Strategic renewal: Very hard, nearly impossible

Essay I of the dissertation, which is co-authored with Mirva Peltoniemi and Juha-Antti Lamberg, deals with the question of realism pertaining to proactive strategic renewal at the industry level. We conceptualize strategic renewal as transitions of a firm's structures and strategic behavior to ensure its prosperity. Our empirical work provides a new level of thoroughness to the study of strategic renewal through a detailed data set of 208 firms in the global pulp and paper industry over a range of 27 years (1989–2015). This addresses the calls for more longitudinal research on renewal processes (Schmitt et al. 2018, Volberda et al. 2001). We first detect changes in configurations associated with superior performance (i.e., success recipes or formulas) within an industry. We then identify firms that are able to switch from one success formula to another and denote them as successful renewals. Finally, we analyze these successful renewals from a process perspective, considering whether these exceptions contain more general theoretical value.

We find that only a few firms managed to transform from one success recipe to another, which demonstrates the difficulties in staying competitive in a market environment that changes dramatically from one regime to another. Only a minority in our sample of firms engaged in proactive renewal, while the majority performed reactive renewal. Our empirical findings further reveal that the majority of success recipes do not possess multiple causal conditions. It is the complementarities among structural and strategic attributes that underlie success. Nevertheless, despite the simplicity in successful configurations, from the rare successful cases of strategic renewal our event structure analyses stress the escalating pluralism of strategic content as well as the incrementalism in transitions between success recipes. The rare successful renewals follow a similar evolving path of resource-configuring activities, which underlines the importance of timing and pacing. Successful transformers added new activities to their strategic configuration of organizational attributes as the environment changed, hedging the risks of changes by maintaining old ones. Moreover, these few firms proactively built on the complementarities of activities, such as releasing unprofitable resources, boosting operational efficiency, innovation and product development, and securing market share in growing segments so that they would be well prepared for the next period's revenue generation. Finally, in terms of a methodological contribution, our employment of a set-theoretic approach and processual tracing technique offers the opportunity for a more nuanced understanding of the processual nature of strategic renewal. The configurational approach enables us to explore the complementarities of structural and strategic attributes in success recipes while the event structure analysis sheds light on how renewal processes evolve over time. We thus demonstrate how such a novel combination can generate additional theoretical and normative insights, and thus hold potential for future work on strategic renewal.

5.2 Essay II: Why do large firms make an exit?

This study builds on a long-standing data collection process focused on the largest firms in the global PPI. We start Essay II, which is co-authored with Jari Ojala and Juha-Antti Lamberg, with a simple question: what happens to firms after they become large and successful? To answer this question, we follow the life paths of 100 largest pulp and paper firms listed in 1979 and identify the strategies adopted by the surviving and non-surviving firms until 2015.

Our study responds to a call for a richer and more complex model featuring the interdependence between firms' structural and behavioral attributes (e.g., Anderson & Tushman 2001) in explicating firm survival and exit. In particular, we conceptualize exit as the outcome of complex configurations of both strategic and structural factors. We draw on the qualitative comparative analysis logic and methodological approach to reinvestigate the complex causal interrelationship between the two questions of what firms are and what firms do, which eventually results in an exit.

Our contribution to the business history and strategy literature is twofold. First, the derived exit configurations verify the assumption of the limited scope of strategic alternatives and shed some light on how firms co-exist with their environment. The limited number of configurations also supports the assumptions on the effect of strong evolutionary forces and their impact on industrial populations over time. It is the result of the complex and path-dependent characteristic of strategic decision-making. Additionally, exit configurations vary considerably across competitive regimes. The number of configurations is thus not static. The dynamic process between the external environment, the focal firm, and its legacy gradually alters the set of possibilities, and such dialogue continues over time. Furthermore, we demonstrate what types of strategic actions corresponding to firms' structural characteristics are associated with exits. One of our interesting findings is that being the largest firm and adopting a cost-leadership competitive strategy does not guarantee longevity. Second, we contribute to the methodological progress in explicating the causes of exits. A configurational approach, instead of general linear modelling, enables aggregation from idiosyncratic observations while maintaining an understandable link with the historical context under scrutiny.

5.3 Essay III: Alert! Treating the language game in competitive interaction seriously

Competitive behavior that has been analyzed in the strategic management literature largely focuses on concrete actions (e.g., Chen & MacMillan 1992, Lamberg et al. 2009, Smith et al. 2001). Despite the apparent importance of speech acts—announcements, comments, statements, promises, threats, commands and so on—in competitive dynamics, the notion of a speech act has not been previously addressed systematically. Instead, different speech acts have been treated as an undifferentiated category of "other" or "non-concrete" competitive actions. In Essay III of my dissertation, which is co-authored with Tomi Nokelainen, we posit that speech acts lie on a continuum which features traditional concrete competitive actions (see, e.g., Ferrier & Lee 2002) and "cheap talk" (Farrell & Rabin 1996) as the two extremes, but where speech acts come closer to concrete actions.

Our contribution to the competitive dynamics literature is twofold. First, we rigorously examine speech acts by using the theory of speech acts in philosophy (Searle 1976, 2008). We argue that speech acts come in different distinct varieties and are a part of companies' competitive reality. There are different types of speech acts, all of which serve different purposes in general discourse and in competitive interaction between firms. In other words, they are a part of companies' competitive behavior repertoire alongside concrete competitive actions and thus must be differentiated from "cheap talk". Indeed, while previous competitive dynamics research has largely treated speech acts as an undifferentiated category of signaling, we argue that companies can and do perform concrete actions as speech acts (performatives) as well as try to exert spoken influence on their rivals in their competitive environment (contingent influences) in addition to "just signaling" (statements).

Second, because speech acts are under-recognized, the theoretical understanding of their usage, together with and in comparison to concrete competitive actions, is underdeveloped. Thus, we take a first step toward a theorization of speech acts by following upper echelons research in exploring how CEOs—in their capacity of "speaking for the company"—go about using speech acts. Drawing from the upper echelons literature (Carpenter et al. 2004, Finkelstein et al. 2008), we develop and test a theoretical framework that includes both direct and interaction effects of CEOs' individual characteristics and firm performance on CEOs' speech act behavior, controlling for environmental and firm-specific factors. Speech acts data for our empirical exploration comes from approximately 15,000 sentences collected from 19 CEOs in the top global pulp and paper companies between 2007 and 2017. Our findings suggest that educational background, age, tenure, and an analytical tendency may explain how CEOs make promises or express intentions about future action, which in turn may exert competitive forces on competitors, prompting them to respond. Interaction effects between the performance situation and the CEOs' personality reveal that CEOs appear to refrain from making commissive and directive speech acts when facing downturns, possibly to avoid escalating rivalry.

Ultimately, our work provides an initial attempt at laying the groundwork for a theory of competitive behavior that unifies the currently separate strands of competitive dynamics.

5.4 Essay IV: Reconceptualizing the formation of interfirm competition and strategic choices

The fourth essay of my dissertation, which is single-authored, attempt to reconceptualize the formation of interfirm competition. From the theoretical perspective, the essay contributes to theory in strategic management research, especially competitor identification and analysis, and competitive dynamics streams in two ways.

First, I develop a theoretical framework elucidating how interfirm competition is formed by incorporating firms' interactions in both factor and product markets. This integrative thinking joins the ongoing conversation on rebalancing the attention of researchers on both the supply and demand sides in the field of strategic management (e.g., Barney 2014, Clark & Montgomery 1999, Priem et al. 2013, Priem et al. 2018). The framework offers a dynamic view of the interrelationships between the focal firms and other actors, which may evolve from past relationships, outcomes, and interfirm cognition and interpretation. It also sheds some light on how firms may formulate competitive actions based on the potential reciprocal linkages between the reputational ranking that firms achieve when serving certain consumer functions and the capabilities that address such functions. It is sometimes more likely that competitive actions result from firms' path dependence. At other times, it results from the motivation to address consumer functions.

Second, based on the proposed conceptual framework, I introduce a competitor identification and analysis model to account for the heterogeneity of consumers and firms. The identification of competitive threats is essential to guarantee a firm's survival. Such a task is made more difficult by the accelerating market velocity and complexity and by the limitation of managerial cognition. In addition, the identification of competitive threats will not be sufficient without evaluation of the competitors' positional advantage and their supporting capability to secure or reach that position. Applying the constructs of reputational ranking and capability parity, the model assesses what types of competitive actions the target firm is likely to take due to its position relative to other competitors. It also addresses how different types of competitors are likely to behave in a certain context against the focal firm.

Additionally, the model sheds some light on how a firm may perceive and handle its interfirm relationships. On the one hand, a focal firm may hold a portfolio of different interfirm relationships. Some interfirm relationship can be purely coexistence, which is suitable for a new entrant who would like to avoid rivalry and focus on capturing opportunities by better serving consumer functions. Others can be more inclined toward competition, with the intention to exploit positional advantages or toward collaboration. to alter the product ontology and industry beliefs. In other situations, the relationship can be simultaneously competitive and cooperative, in order to access external resources and reduce rivalry for joint benefits. On the other hand, the model offers a dynamic view to track a target firm from its status as a new entrant to that as a displaced incumbent. In this respect, the relationship between the focal firm and a competitor can change, depending on the focal firm's advantage in relation to its competitor. In other words, competitive tension between the two firms will evolve on a continuous and dynamic basis. Beyond a certain point, however, the relationship changes. For example, firm A may be firm B's friend today but its enemy tomorrow, and its ally the day after that. Competition, following this perspective, is also about a question of time frame. In consequence, the derived model encourages strategists to broaden their view of the competitive landscape. It enables more accurate anticipation of attacks from competitors, and maybe more effective responses, be they defensive or collaborative.

6 CONCLUDING REMARKS

This dissertation provides empirical evidence (Essays I, II, and III) and arguments (Essay IV) that competitive activity occurs not in isolation but within a broader system of institutions and organizations. The collection of four essays also points out the wider and deeper impact of competitive behavior on firm performance outcomes (e.g., strategic renewal, exits, superior performance, reputational ranking) and industry evolution. This is in contrast to the prevailing view from competitive dynamics research, which remains centered on action- and firm-level without explicitly considering contextual, historical, and temporal contexts as variables interacting with their competitive behavior.

The introductory chapter presents an evolutionary theoretical framework capturing the dynamic (re)configuration of firms' competitive behavior and the complex interplay between such behavior, the corresponding outcomes, and the changes in the institutional and extra-institutional environments. The framework developed in this chapter can act as a conceptual backdrop to consider firms' competitive behavior as embedded within a broader context. In particular, the extra-institutional, institutional, and contractual environments, and their changes through time influence the perception of firm actors, which in turn shapes the firm-level competitive behavior. Firms, in response to the corresponding outcomes, may act to trigger changes at the higher environmental levels. This chapter thus calls for more studies of firms over time acknowledging the potential impacts of contextual variations.

Moreover, recognizing the limited attention to historical perspective, interfirm cognition and interpretation in competitive dynamics research, Essay IV integrates temporal context and social-cognitive process into a conceptual framework to reflect the dynamic reality of the competitive landscape. It may not be sufficient to explain firms' competitive behavior without accounting for accumulated past relationships and how firms make sense of such relationships. In so doing, the proposed framework provides a dynamic view of the interrelationship between the focal firms, consumers, and other players, which may evolve as a result of firms' prior interaction and outcomes, in turn redefine the focal firm's relative competitive position. Essay IV thus puts forward an evolutionary framework on preceding and succeeding competitive behavior. Such an institutional and historical embedded perspective helps offer a contextualized explanation of firms' competitive behavior and performance differences. The same competitive behavior may lead to different outcomes in different spatial-historical-temporal contexts.

We find that firms have adopted different structural and strategic configurations in different periods to maintain superior performance and to ensure survival (Essays I and II). The longitudinal research setting allows us to take into account the temporal and contextual dimensions of firms' competitive behavior. In Essay I, we demonstrate the difficulties in staying competitive (i.e., proactive renewal) in a market environment that changes dramatically from one regime to another. Our findings indicate that successful transformers tend to pace their renewal by maintaining one current strategic activity and adding new activities in the next period. In addition, our analyses from the rare successful cases of strategic renewal stress the temporal difference in the content and implementation pace of specific strategies. Such firms prepared themselves well for the next period's internally resource-creating activities and coordinated resource configuration activities to achieve the complementary benefits. These activities are essential because they are mainly responsible for generating sales. Moreover, although process and product innovations potentially keep firms ahead of their competitors, we observe an increasing pluralism of strategic content from one era to another. For example, only new product development initiatives dominated the innovative recipe in the 1990s whereas exploration-related activities after the 2000s required additional sales and marketing, new material sourcing, and sustainability-oriented strategies. Similarly, in Essay II, we observe considerable variation in the causal configurations explaining exits in our sample. Numerous combinations of size, innovativeness, and strategies preceded these exits. Indeed, the combinations of causal factors varied across competitive regimes and over time. Accordingly, there was no stability in the formulas resulting in exits. Furthermore, these formulas were not uniform across companies.

Additionally, the configurational approach we use in both Essays I and II enables aggregation from idiosyncratic observations while maintaining an understandable link with the historical context under scrutiny. The studies also advance the application of the fuzzy set qualitative comparative analysis by taking into account the temporal changes, which indicates different sets of configurations in different periods. Our model considers both firm structural and strategic behaviors and their resulting performance outcomes in different temporal and contextual arrangements. Such model may be generalized to study the causal recipes in other industries: how and why contextual dynamics and firms' competitive behavior are linked. Especially, in Essay I, we demonstrated how further case-level analyses based on the configurational findings can provide insights into configurational transitions and their processes. Similar two-step strategies hold potential for further studies on other longitudinal phenomena in strategic management.

Furthermore, introducing speech acts to the competitive behavior repertoire in Essay III enables competitive dynamics research to view competitive behavior more in terms of how human beings (collectively as firms) actually do interact, which emphasizes the perceptual aspect of competition. We suggest that firms' competitive behavior is not just constituted by—and therefore driven by—rivalrous attacks in the form of positive actions (e.g., product launches, capacity additions), but in addition consists of talking, that is speech acts. After all, behavioral mechanisms between people (and, by implication, the collectives they form) are not just about what I do to you but are to a very large extent influenced by what I say to you and you to me. Therefore, introducing speech acts enables methodologically competitive dynamics research to better unveil the mechanisms which drive firms' competitive behavior. Moreover, CEOs' characteristics (and company characteristics) provide more explanatory power for why firms act the way they do. The incorporation of CEOs' personal characteristics views the key actors in charge of firm speech and concrete actions as human beings with a history. Their perception and motivation are largely shaped by specific regulatory and historical episodes. In particular, the individuals' backgrounds explain to a degree why they behave the way they do (in terms of competitive behavior, especially of the speech variety). The same, of course, applies to the characteristics of firms.

For future research, it is possible to explore the phenomena in Essays I and II as thoroughly as possible. First, in traditional empirical studies, strategic management scholars tend to gain new insights mainly based on empirical evidence. What if insights can be revealed through the empirically unobserved? While the first two essays emphasize the application of configurational and complementary logic in traditional analyses of organizational configurations, future research may focus on the other logic, namely counterfactual logic. By uncovering the power of counterfactual analysis, it is possible to explore the unobserved, but logically possible counterfactual configurations. The emergence of possible new solutions and their plausibility may provide interesting and valuable insights. Second, as inspired by Misangyi et al. (2017), the same data can be used to track even the movement of fuzzy set scores of each causal condition in relation to the outcome. For even deeper analyses, the studies might also be conducted based on geographical differences to see whether the configurations change and what the patterns are. As articulated in Section 3, the reason is that, practically speaking, institutional environments are different around the globe, which demands different configurations of competitive behavior.

There are also limitations to our studies, which are worth considering for future research. In Essays I and II, due to a large amount of newswires, competitive actions were auto-coded by ATLAS.ti. Perhaps further studies should include a validity check of such computerized coding by taking a random sub-sample and coding manually. On the other hand, we carried out a manual coding of speech acts in Essay III, since our approach of categorizing verbal competitive behavior is rather novel. However, this limited the sample size of speech acts that we could manually code (15,000 sentences). To our knowledge, at the time of writing the essay, there was no commercial machine-learning algorithm or equivalent available for this task. Therefore, future work could develop a speech-acts dictionary and make use of machine learning algorithms to recognize and categorize competitive speech acts as well as concrete actions, so that analyses of larger data samples become possible. Currently, only verbal communication as transcribed into textual data is used. Nonetheless, other data—such as facial expressions constructed from videographic data when the speaker is engaged in speech—may provide an interesting avenue to study the oral communication of top management.

Moreover, although the research was conducted at a global scale, the focus was just on one industry. Thus, generalization of empirical findings should be made with caution. For instance, size was one of the core elements, as economy of scale is imperative in the pulp and paper firms, but it might be not the case in less capital-intensive businesses. However, studying the PPI at the global scale, based at least on the annual portfolios of the largest 100 firms in different countries and geographic regions, provided the opportunity to investigate and compare the influences of country- or region-specific contexts on firms' competitive behavior.

Finally, Essays I and II considered only concrete actions while Essay III looked at language-based competitive behavior. Since we argue that the reality of firms' competitive behavior comprises both verbal and concrete competitive activities (Essay III), future research may combine both types of activities to study the configurations that lead to the favorable positional advantage of the focal firms. The same approach may be employed to explore what would be the optimal combination of speech- and action-based competitive moves, and when to use such combination. Subsequent studies may also investigate whether top management's speech acts correspond to firms' realized actions, that is, whether, how, when, and under what circumstances future-oriented speech acts such as promises materialize as concrete actions, and what the impact of those are on performance outcomes.

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ORIGINAL ESSAYS

I

STRATEGIC RENEWAL: VERY HARD, NEARLY IMPOSSIBLE

by

Nguyen, Khoa, Peltoniemi, Mirva & Lamberg, Juha-Antti

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Strategic renewal: Very hard, nearly impossible

Abstract: The vast literature on strategic renewal holds that it is challenging. Some firms, however, are able to engage in what is called proactive strategic renewal, where firms transition from one strategy to another while sustaining superior performance. The remaining question is to what extent proactive renewal is a relevant approach to understanding industry-wide processes. We detect distinct success formulas in three periods among 208 large firms in the global pulp and paper industry. We then identify firms that are able to switch from one success formula to another and denote them as successful renewals. Finally, we analyze these successful renewals with event structure analysis to shed light on the process of proactive renewal. Our findings confirm that successful strategic renewal is rare. The increasing complexity of the environment has made the success formulas more complex over time, rendering successful renewal dependent on the ability to add rather than to reduce strategic activities. The importance of anomalistic proactive renewal is thus in pioneering before a mass of firms engage in similar strategic changes.

INTRODUCTION

"If you don't transform your company, you're stuck" (Xerox CEO Ursula Burns, May 23, 2012) – this statement exemplifies a common assumption in the business press and among management gurus. However, according to a study by the Boston Consulting Group, 75% of attempted renewals fail (Walter et al., 2013). If this is so, to what extent is strategic renewal possible, and how should it be managed? This question has received extensive academic attention. Representing the latest phase of renewal research, Teece (2019) argues that strategic renewal is challenging due to the irreversibility of investments and uncertainty over their outcomes. Firms moving ahead with new technologies, product designs or geographical markets, for example, face an increasing cost of changing such decisions. Past commitments to strategies also create inflexibilities relating to "organizational structures, culture, and human capital" (p. 23). Moreover, the elements of the organization must be congruent in order to work well together (Teece, 2019). This means that changing one part has repercussions for the functionality of the whole organization.

The literature on strategic renewal defines it as "the process, content, and outcome of refreshment or replacement of attributes of an organization that have the potential to substantially affect its long-term prospects" (Agarwal and Helfat, 2009: 282). It includes changes in organizational resources and competences (Danneels, 2011), and the alteration of a firm's path dependence (Volberda et al., 2001b). In their recent review, Schmitt and others (2018: 85) conclude that strategic renewal "focuses on the shift from one (competitive) strategy to another, rather than exploring specific competitive strategies' antecedents, nature, and outcomes."

The recurring elements in the above definitions include the notion of purposeful change in order to achieve better outcomes than without such change. We follow this co-creation approach to strategic renewal (Schmitt et al., 2018: 86) in which firms "proactively generate new opportunities and influence the market's evolution" rather than realign with altered environmental conditions. An underlying assumption in the co-creation approach is that some firms possess the capabilities to overcome their inertia in order to renew and actively fulfill their objectives, be it superior performance and/or long-term survival. An open question, correspondingly, is to what extent the idea of proactive strategic renewal is relevant in the analysis of industry-level renewal processes.

The undertone of the empirical literature is that strategic renewal is hard and that successful renewals represent exceptions from which others should learn. The population-level studies have focused on the variance of renewal activities, that is, on the characteristics of the firm and the environment that have an effect on what kinds of renewals are undertaken, but ignored the performance outcomes of said renewal paths. In particular, these studies explain variation in the balance of exploration/exploitation and internal/external renewal with industry, country, and firm characteristics, but do not capture their performance outcomes (e.g., Capron and Mitchell, 2009; Flier et al., 2003; Kim and Pennings, 2009; Volberda et al., 2001a). We therefore lack an understanding of the extent to which renewals are successful at the industry-level, what the characteristics of successful renewals are, and how successful processes proceed.

In addressing the research gap, we focus on a specific kind of renewal: firms that sustain superior performance, and renew despite performing well at the moment. This proactive renewal approach is in contrast to the majority of case studies on renewal processes which tend to be triggered by declining performance due to environmental change (e.g., Agarwal and Helfat, 2009; Ben-Menahem et al., 2013; Crossan and Berdrow, 2003; Danneels, 2002; Danneels, 2011; Kwee et al., 2011; Rindova and Kotha, 2001; Tripsas and Gavetti, 2000). Our empirical exploration proceeds in three steps. We first detect changes in configurations associated with superior performance (i.e., success recipes or formulas) within an industry. We then identify firms that are able to switch from one success formula to another and denote them as successful renewals. Finally, we analyze these successful renewals from a process perspective considering whether these exceptions contain more general theoretical value.

We study strategic renewal at the industry level. Our data comes from the global pulp and paper industry from 1989 to 2015. The industry is revelatory for the study of strategic renewal for two reasons: (a) the chemical pulping technology is especially suitable for new product development (i.e., a firm may switch between product segments using its key technological knowhow and routines); and (b) the industry has been particularly turbulent since the 1970s due to new geographical markets and radical changes in demand for different products. By identifying successful cases of strategic renewal from a population of 208 firms and subsequently analyzing the processual characteristics of their renewal with event structure analysis, we introduce a new level of empirical thoroughness to the research on strategic renewal.

Our study contributes to the strategic renewal literature in three ways. First, our qualitative comparative analysis indicates that the majority of success recipes appear very simple, including only a few causal conditions, and suggest that complementarities among structural and strategic attributes are important to superior performance. Our research findings also complement the ongoing discussion on configurations of structural and strategic attributes leading to superior performance (e.g., DeSarbo et al., 2005; Doty et al., 1993; Fiss, 2011; Jansen et al., 2006). Additionally, in line with the recent re-emphasis on the link between diversification and renewal (e.g., Kaul, 2012; Pettus et al., 2018), our success formulas suggest that diversification could be an effective means of renewal because it enables firms to capture diverse opportunities.

Second, our event structure analysis of the rare successful renewals highlights a similar evolving path of resource-configuring activities, which underlines the importance of timing and pacing (cf. Ben-Menahem et al., 2013; Volberda et al., 2001a). Successful transformers added new activities to their strategic configuration as the environment changed while hedging the risks of changes by maintaining old ones. Moreover, these few firms proactively built on the complementarities of the activities such as releasing unprofitable resources, boosting operational efficiency, innovation and product development, and securing market share in growing segments so that they are well-prepared for the next period's revenue generation (cf. Cattani, 2006). Our findings also contribute to the conversation on the institutional and cognitive nature of industries (e.g., Eggers and Kaplan, 2009; Kim and Pennings, 2009; Lamberg and Tikkanen, 2006; Porac et al., 2011). At the industry level, only a few firms who acted fast and proactively led the change of an industry recipe (Spender, 1989). Other firms then follow these pioneering renewals, resulting in industry-wide change.

Finally, in terms of a methodological contribution, our employment of a set-theoretic approach and processual tracing technique offer the opportunity for more nuanced understanding of the processual nature of strategic renewal. The configurational approach (Fiss, 2007; Ragin, 2008) enables us to explore the complementarities of structural and strategic attributes in success recipes while the event structure analysis (Corsano and Heise, 1990; Griffin, 1993; Heise, 1989) sheds light on how the renewal processes evolve over time. We thus demonstrate how such a novel combination can generate additional theoretical and normative insights, and thus hold potential for future work on strategic renewal.

THEORETICAL BACKGROUND

The recent review on strategic renewal coins two views on the process: co-alignment and co-creation (Schmitt et al., 2018). The former sees renewal as a sequence of reactions to environmental change whereas the latter sees it as a proactive stance of continuous standard-setting and influencing industry evolution. In the present paper, we follow the latter approach in our quest to understand sustained superior performance. This view builds on some classic works of strategic renewal. Already in the dawn of renewal studies, Baden-Fuller and Stopford (1992) argued that firms within mature industries do not have to be victims of their environment and therefore they may have widely differing strategies that are based on the premise that demand is not an exogenous variable. Such strategies should be based on selective growth where new resources and capabilities are built to complement rather than substitute those already in existence. Moreover, such selectivity controls for the costs of growth that may be substantial especially when the addition of new products or markets does not create economies of scale (Baden-Fuller and Stopford, 1992). Spender (1989) presented similar ideas under the concept of changing industry recipes. He views an industry recipe as an institutionalized rationality that can spawn different strategies. As some firms adopt a new rationality that spreads across the industry the recipe changes. In consequence, the industry recipe comes with a degree of stability but it is something that the firms create rather than a given factor (Spender, 1989). Proactive renewal hence comes with the advantage of time to prepare strategies to deal with anticipated changes, but with the cost of limited knowledge of the anticipated shift (Teece, 2019). Firms may make wrong bets when preparing for changes the content of which is at least to some extent unknown.

Proactive strategic renewal assumes that firms within an industry can have different structures and strategies. The origin of such intra-industry heterogeneity lies in different initial resource endowments and divergence forces including local learning and feedback loops (Noda and Collis, 2001). For Baden-Fuller and Teece (2019), heterogeneity is driven by the capacity to perceive opportunities that others have not seen. As one firm chooses to try out an opportunity, others do not necessarily follow because of uncertainty over profitability. Research results on sustained superior performance hold that following is less likely when an opportunity is created rather than discovered, that is, firms should focus on building mountains rather than climbing them (Henderson and Graebner, 2020). Such a mountain may mean, for example, the development of a new technology. This, then, comes with the risk of choosing the wrong technology. The ability to take on such a risk likely depends on whether the organization is structured to be able to recover from wrong technological choices (Eggers, 2016). According to Eggers, the ability to recover is enabled by a hybrid R&D structure with centralized and decentralized components, and a focus on the business case rather than on specific technologies.

Proactive strategic renewal instinctively comes with a focus on timing and pacing. The time horizon for renewal varies according to the rate of change in the environment: stable competition and hyper-competition require different paces of renewal (Floyd and Lane, 2000). Alignment of internal and external rates of change is positively related to performance (Ben-Menahem et al., 2013). This is a goldilocks situation: the window of opportunity for action is limited and firms should not act too early nor too late (Calori et al., 2000). Timing appears to be a choice as Volberda and others (2001a) find that the speed of renewal is largely determined at the firm level and not at the industry or country level. To be able to move with proactive opportunity creation, firms should have an appropriate amount of slack. Too many slack resources focused on a resource-dissipating business may threaten the survival of the firm, but delaying slack resource allocation will likely decrease the stock of slack available to build the new business (Mollona, 2017). Slack is also required for maintaining and building absorptive capacity the latter of which takes time (Ben-Menahem et al., 2013). Agility always comes with a cost (Teece, 2019), and determining the appropriate amount of slack is a proactive choice.

Baden-Fuller and Stopford (1992) already highlighted the importance of building resources and capabilities that complement rather than substitute the existing ones. Flexibility requires a degree of stability – renewal is a combination of preservation and transformation (Calori et al., 2000). The ability to build new resources and capabilities also depends on the scope of the firm. Firms with a broad portfolio of skills benefit from adding more, but such additions are risky for narrow portfolio firms (Wezel and van Witteloostuijn, 2006). Moreover, entering into new technologies is found to be more successful with acquisitions as opposed to greenfield investments (Blomkvist et al., 2014), and the elimination of assets in mature industries tends to have a negative effect on performance (Morrow Jr et al., 2004). The adverse effects of elimination are likely explained by interdependencies between activities. Such interdependencies may increase inertia, but they also enable a flow of resources and information which are necessary for renewal (Albert et al., 2015). Again, we are facing a goldilocks situation: structural differentiation is required for developing new things, but sufficient integration is necessary for establishing an appropriate context for such development efforts (Burgers et al., 2009).

Proactive strategic renewal includes the assumption of management action. Executives need to envision how the environment is likely to change in the future and make active decisions on which opportunities to create and exploit. Managerial intentionality is the intermediary between organizations and their environments, and it explains outlier behavior and inter-firm differences in the frequency and timing of renewal actions (Flier et al., 2003). In the model by Hutzschenreuter and others (2007), managerial intentionality varies in terms of the degree of focus on innovation and imitation, the geographic focus on global or regional operations, and the aspiration level as in whether executives perceive their comparison group to be the average players or the firms at the performance frontier. Managerial intentionality then needs to be transmitted to the lower levels of the organization through empowering employees (Chakravarthy and Gargiulo, 1998). Decisions by top management should be followed by the authorization of lower levels of the organization to progress with opportunities (Angwin et al., 2015). When 'green light' does not happen, firms fail to proceed with favorable opportunities.

In our empirical work, we are interested in strategic renewals where firms are able to sustain superior performance by shifting their strategic and structural attributes. A growing body of organizational literature has recognized that organizational outcomes tend to be the product of interactions among interdependent attributes (Siggelkow, 2002; Tushman and O'Reilly, 2002). This interdependence resonates with the insight of configuration theory, which underscores the aggregated and systemic aspects of organizational phenomena (Miller, 1986; 1987; 1996). The configurational approach has therefore been the preferred choice for research on organizational design despite being under different labels, such as on typologies, taxonomies, generic strategies, or archetypes (e.g., Burns and Stalker, 1961; Hofer and

Schendel, 1978; Miles and Snow, 1978; Miles and Snow, 2003; Mintzberg, 1979; Mintzberg, 1983; Porter, 1980).

Building on the interdependent nature of configurational thinking, the notion of complementarities (Milgrom and Roberts, 1995; Whittington et al., 1999) highlights the risk of transitioning between configurations of organizational attributes. This notion emphasizes the benefits of coherent and interdependent, rather than individual, modifications of organizational variables because "doing more of one thing increases the returns to doing more of another" (Milgrom and Roberts, 1995: 181). The payoff for changing one organizational attribute is dependent on the potential synergy among other elements of a firm's structure and strategy. In other words, a firm's attribute that is associated with positive performance might, when combined with its complements, produce negative payoffs when considered individually. Therefore, the possibility of a successful strategic renewal depends on how firms coordinate their renewal themes (across and within categories) to ensure the complementary benefits among the firm's attributes. Such a coordinating theme is central to a firm's competitive advantage.

In the next section, we discuss the characteristics of the pulp and paper industry as our research setting. We then identify successful cases of strategic renewal from a population of 208 firms, elucidate the characteristics of those successful renewals, and how such processes take place.

RESEARCH SETTING: THE PULP AND PAPER INDUSTRY FROM 1989 TO 2015

At the outset, the paper and pulp industry would look like a manifestation of Teece's (2007: 1325) characterization of "'[…] rust belt' industries that experience low rates of technological innovation where complementors are not important, and where the coevolution of technologies and institutions is not significant." Before the 1990s, the industry was relatively stagnant. Primary competitive advantages originated on a Chandlerian (1990) scale and scope mechanisms conjoined with investments in gradually improving paper machines (Toivanen, 2005) and pulp chemistry (Hujala et al., 2013). The demand for the main products – printing papers and packaging materials – correlated very strongly with GDP growth (Diesen, 1998), making strategic planning relatively simple (Carlsson et al., 2009; Davis et al., 1992; Kald, 2003) compared to more volatile industries. However, if we look at the period of industry evolution from the late 1980s to the 2010s, the paper and pulp industry is relatively distant from this picture. Most of the largest companies have made a change contingent on five mega-changes, each affecting the industry's strategic options directly. These industry-shaping forces are listed and characterized in Table 1[1].

Insert Table 1 and Figure 1 about here

The paper and pulp industry's unique feature is the flexibility of chemical pulp as raw material for different types of products in the business-to-consumer and business-to-business segments. Accordingly, most of the market segments have existed since the early phases of the industry. However, if we consider all potential products, from printing papers to diapers and textiles, and focus on different geographical markets (see Figure 1), the industry looks less stagnant. A typical example is tissue paper, which in the US and other developed

[1] A valid question concerns the existence of an industry called 'pulp and paper industry' (Stokes and Banken, 2015). Although we recognize the heterogeneity among the firms that we treat as members of a specific population, we have strong reasons to see the industry as a relevant study object. First, there is a long line of research (e.g., Cohen, 1984; Ghosal and Nair-Reichert, 2009; Laestadius, 1998) perceiving the pulp and paper industry as a unitary population of companies. Second, we follow Porac and his colleagues (e.g., Porac et al., 1995; Porac et al., 2002; Porac et al., 2011) in conceptualizing industries as socio-cognitive groups, which contain shared ideas about product ontology (everything produced from different forms of pulp), industry recipe (how value is created and captured) (Spender, 1989), reputational ranking (which companies are the best), and boundary beliefs (which firms belong to the social group of pulp and paper firms). Unlike many other industries (e.g., grocery retailing or console games), the main binding mechanism is not a shared pool of customers but chemical and mechanical pulp and their technical characteristics – in some sense like the oil industry or other raw material-centered industries. Accordingly, our choice to study the pulp and paper industry follows established tradition and is grounded on conceptualizing an industry as a socio-cognitive group of firms.

countries is a brand business and technically very advanced (in terms of weight and softness). In contrast, in some countries, the tissue is not even used, or the quality is deficient. Tissue and diapers also reflect the dramatic changes in business approaches during the period of our study. Instead of building on increasing operational effectiveness, the main emphasis in winning business models was to maximize customer satisfaction in terms of quality in tissue (likewise in diapers) and investing, especially in marketing:

> Every operation, from winding and sheeting to packaging and palletizing, needs to reflect the need for increased product differentiation…there will almost certainly be fewer tissue lines in this part of the world that run the same product, day-in, day-out. The demands of the marketing department will be felt on the production floor to an unprecedented degree […] as these technologies decrease the commoditization of tissue and add value. A trend that began with simple, single-color designs, often based on colored laminating glues, is gaining increasing sophistication, with the reproduction of intricate, multi-colored cartoon characters, for example. (Hellner, 2007: 44)

In this model, some traditional sources of advantage – especially the pulp price – became less important than in the traditional core businesses. In the 1990s, the majority of large companies still focused on making newsprint and magazine papers. The market for this product, however, turned to be increasingly difficult. One reason was the emergence of electric communication channels and the subsequent decrease in demand:

> In the long term, the Internet is expected to curtail newsprint consumption by 537,000 mtons by 2004, according to Resource Information Systems Inc. (RISI). In addition, consumption will be impacted by the trend of publishers slimming their newspapers to a 50-in web, which can reduce newsprint consumption by up to 8%. (Mcintosh, 1999: 11)

Another reason was the increasing size and productivity of paper machines. When productivity overturned GDP growth (i.e., the basis for market growth), prices started to decrease. Simultaneously, China and South Asia became important production sites with the most modern paper machines. As there was no significant demand first, the new machines further complicated the global market situation. Chinese and Asian firms, for example, first learned to use their modern paper machines and then expanded into the global market with superior productivity and possibilities to use their capabilities in head-to-head competition with US and European companies.

> China is the one nation that does and will account for more than half of the absolute growth in paper and board – more than the US, Europe, Latin-America combined. A very interesting opportunity indeed, however with the same fundamental demand as anywhere else: we must be able to build a sustainable competitive differentiation. Stora Enso CEO Jouko Karvinen (Rushton, 2010: 18)

Likewise, firms specialized in making pulp from Eucalyptus entered the global competition from countries like Portugal and Brazil, which previously had been exporting markets rather than producers and competitors.

> The strength of VCP was the flexibility to produce different grades of paper with 100% eucalyptus fiber — coated, uncoated, thermal, label, carbonless — sharing the time of the paper machine… we want to have the capacity to produce different grades of paper, … We have partners in Europe trying to make quality paper from 100% eucalyptus fiber. We looked at how to become global scale in paper… Votorantim Celulose e Papel (VCP) CEO Jose Luciano Penido (Toland, 2007: 14)

Business problems in the printing paper market started to increase the importance of packaging, hygiene, and tissue products since 2000:

> The US and Europe remain the larger markets, but annual consumption growth is lower than the growth of the economy. Paper consumption growth in these areas is in fact lower than the GDP growth, but tissue grows more, even in a weak economy, so there should always be growing demand. VCP CEO Jose Luciano Penido (Rushton, 2008: 15)

An important factor was the economic development in China, South America, and former Warsaw Pact countries, and another the emergence of e-commerce requiring more and better packaging solutions. It is also noteworthy that paper machines suitable for newsprint and printing paper production could be converted to make thinner paperboard qualities. Accordingly, the largest companies started to look for new business opportunities outside the traditional core businesses. The most recent years have meant an industry transformation from the paper industry to 'bioproducts,' meaning an increasingly innovative use of chemical pulp in various product segments and new types of pulp to replace oil-based plastic products.

> On top of developing our existing businesses we aim to develop production technologies and new products with high added value. Biofuel are among these products. The demand for biofuel is slowly growing and finding added value for energy wood like logging residues, stumps and bark is interesting for us. Therefore building a biomass-to-liquid bio refinery may be an option for us providing we get the EU's New Entrants Reserve (NER300) grant for the development of the new technology. The cost of the first full scale commercial bio refinery is significant, around EUR 300 million… UPM president and CEO Jussi Pesonen (Rushton, 2011: 14)

Overall, if we think of market development as a function of various geographical markets and product segments, we have an increasingly complex industry environment lacking a uniform success recipe. In a turbulent market and institutional environment, all surviving firms must have eventually renewed themselves.

DATA AND METHOD

Fuzzy set qualitative comparative analysis

To identify successful configurations of structures and strategic behaviours, we use fuzzy set qualitative comparative analysis (fs/QCA) (Ragin, 1987; 2000; 2007; 2008). This choice was driven by the need to understand causality as set-theoretic relations rather than as correlations (Fiss, 2007; Ragin, 1987; 2000; 2008). Fs/QCA characterizes three aspects of causal complexity: conjunction, equifinality, and asymmetry (Misangyi et al., 2017; Short et al., 2008). Conjunctural causation implies that outcomes of interest are the results of interdependent attributes that combine into distinct configurations. Equifinality refers to the idea that more than one configuration can be linked to a particular outcome (Katz and Kahn, 1978). For instance, high levels of performance might be achieved through several paths (Gresov and Drazin, 1997). Asymmetry means that the set of causal conditions leading to the presence of an outcome could be different from the set leading to the absence of such outcome. Due to these characteristics, fs/QCA has become a popular method in strategic management research (e.g., Fiss, 2011; Greckhamer et al., 2008).

Data measurement and calibration

Firms in our sample came from the longstanding PPI Top 100 list, which is published annually by the magazine *Paper and Pulp International (PPI).* The list features global pulp and paper industry's major players and has been recognized by the industry professionals since the 1970s. The ranking is based on the net sales of pulp, paper, converting, and merchanting (PPCM) operations.

We gathered news headlines and abstracts from companies which have been ranked in the top 100 in the pulp and paper industry from 1989 to 2015. In total, there are 208 firms that have been listed in the *PPI* Top 100 at least once during the examined period. We were interested in the top 100 firms in the industry because renewal might become more challenging with increased complexity. As firms age and grow, they become more complex and hence it is more difficult for them to reconfigure their interdependent structural and strategic attributes to fit with the changing environment (Barron et al., 1994; Bruderl and Schussler, 1990; Fichman and Levinthal, 1991).

Our data on strategic actions come from the Paperbase International database hosted by Innventia. We coded competitive actions from newswires and abstracts. In addition, we also extracted other relevant data for each firm from *PPI* in the September issues of all years between 1989 and 2015. These data include figures for pulp and paper sales, profit, and the number of employees. We compiled data relating to founding years, product and market diversification from various sources including companies' reports, and were able to use the database of paper and pulp companies of the world. We measured market growth as the growth in global paper and paperboard consumption.

To calibrate our outcome and causal measures, we referred to the best practices in QCA studies in strategy and organization research as proposed by Greckhamer et al. (2018). We transformed these measures into fuzzy scores by applying the direct method of calibration. This method requires three qualitative anchors: full membership (1), full non-membership (0), and a crossover point (0.5), which is "the point of maximum ambiguity in the assessment of whether a case is more in or out of a set" (Ragin, 2008: 30). Uncalibrated measures permit assessment of the positions of cases relative to one another. Calibrated measures, on the other hand, are directly interpretable. For example, calibration would permit one to classify a company as a high or low performer rather than as merely better or poorer performing than some other company.

In order to determine the breakpoints for calibration, we had looked for external criteria in the pulp and paper industry reports. However, we decided to use the properties of the study's sample to derive the breakpoints (examples of studies using this method: Greckhamer, 2011; 2016) for three reasons. First, the top 100 companies produced on average 69% of the industry's output throughout the research period. Hence, their data largely represent the context of the industry in the given timeframe. Second, since our study dates back to 1989, there has been no consistent source of industry information regarding organizational performance and attributes in question, such as strategic actions and structural characteristics. Finally, also an important reason, when accessing the outcome of strategic renewal, we take the position that success or failure should be measured relatively in a population (the focal firm versus its rivals) within a certain timeframe (van Rooij, 2015). Thus, using within-sample breakpoints will enable such assessment.

Outcome measure

We focus on proactive strategic renewal, which assumes that firms renew without existential threat. Hence, our research mission is not about avoiding exit, but about maintaining superior performance. Our outcome of interest is therefore firm performance, measured as net profit margin and calculated as net earnings (after tax and excluding extraordinary items) divided by sales revenue. Following earlier renewal studies, we used profitability as a measure of firm performance (e.g., Haleblian and Finkelstein, 1993; Jansen et al., 2006; Volberda et al., 2001b; Zahra, 1993; Zhang and Rajagopalan, 2010). Both net profit and sales revenue account for pulp, paper, converting and merchanting operations only. We used a net profit margin specific to pulp and paper–related operations as a proxy for firm performance instead of other indicators such as return on capital (or total assets) because some of the firms in our dataset operate in multiple segments other than pulp and paper. Thus, an overall return on capital may not accurately and consistently reflect the performance of pulp and paper operations in our sample of firms. This is another reason why we could not use industry data (e.g., industry median return on assets) to simply calibrate our data.

Data to calculate the net profit margin were collected from the *PPI* Top 100 magazines. The average net profit margin for the whole dataset (208 companies, 1989–2015) was 7.6%. The breakpoints were set for each period separately. Furthermore, to avoid anchored breakpoints skewing toward negative cases, the calibration process treated company cases with negative profitability as zero profitability. We chose the 90th percentile as the breakpoint for full membership of superior performance, the 10th percentile for full non-membership, and the 50th percentile for crossover threshold. Table 2 reports fuzzy scores for performance outcomes for the three periods and other causal measures.

By comparing the firms' raw profitability (uncalibrated measure) across the periods, we observe that 12 cases successfully improved their profitability from period 1 to period 2, and 29 cases did the same from period 2 to period 3 (see online Appendix 1). This pattern is expected in a large sample, and has been extensively studied in the turnaround literature (e.g., Filatotchev and Toms, 2006; Ndofor et al., 2013). Nevertheless, by comparing the fuzzy scores (calibrated measure), we notice that there are only a few cases which successfully maintained superior performance from one period to another. A fuzzy score of equal or higher than 0.95 indicates a superior performance. The calibrated measure allows us to see which firms have been the superior performers within a period (by calibrating against other firms' performance within that specific period). Calibration is meaningful because firms tend to compare among themselves. In addition, calibration within a specific period is important because firm operation is embedded in a certain context. The external environment in the 1990s is different from the one in the 2000s. Therefore, a raw profitability margin of 19.3% is considered superior performance in 1990s, but this has to be more than 21.5% in the 2000s (see Table 2 Summary of calibration for outcome and causal conditions). In a similar vein, for example, although Suzano's profit dropped from 34.6% to 22.1% from period 1 to period 2, the firm is still considered as performing superiorly against its peers in both periods. This is because its profit margins' fuzzy scores surpassed 0.95.

The turnaround literature has been largely interested in firms that renew for profitability reasons, from low to high(er) profitability, while little attention has been paid to firms that renew in a proactive way and remain competitive. The fact that only a few cases managed to sustain their superior performance is an interesting finding, and it merits further investigation.

Causal conditions

Strategic attributes: Drawing on Eisenhardt and Martin (2000), we propose four ways a firm can (re)configure its resources base: leveraging, creating, accessing, and releasing, through which it can achieve new resource configurations to cope with changing market circumstances. Leveraging resources enables renewal through drawing on the firm's existing resources. One example of leveraging is to extract additional value from underutilized resources and capabilities to serve a different market fit subject to the fungibility of such resources (Danneels, 2002; Miller, 2003). Second, a new competence may be built through combining newly created resources internally, which requires explorative learning (Levinthal and March, 1993; March, 1991). The first two resource configuration modes correspond to two conventional mechanisms: respectively, internal actions of exploitation and exploration that firms employ to develop and create knowledge in order to better fit into their environment according to organizational learning and adaptation theories (Levinthal and March, 1993; Levitt and March, 1988; Lewin et al., 1999; March, 1991). Third, an alternative way to alter the resource base is to access new resources from relationships and interactions with other organizations instead of building the new one on its own. Examples of this mode include alliances, technology consortia, merger and acquisitions (Das and Teng, 2000; Harrison et al., 2001). This third mode re-emphasizes alternative views of interfirm competition that go beyond the conventional rivalrous mode of thinking (Chen and Miller, 2015), consistent with the literature on competition-cooperation (Gnyawali and Madhavan, 2001; Khanna et al., 1998; Lenz, 1980), and stakeholder theory (Freeman, 1984; Freeman et al., 2010). Finally, the last mode of resource modification involves shedding existing resources, such as cutting or deferring capital spending and unessential maintenance, reducing working capital, reducing staff or divesting assets in a business unit when such unit is no longer profitable or in line with the organization's broad strategies. The cut might also be done to support other operations in difficult times with a focus to stay alive. In addition, firms may choose to exit a market to avoid rivalry or to strategically redefine their market positions. Market exit can therefore be considered as both an outcome of interfirm competition as well as a strategic move (Baum and Korn, 1996; Porter, 1980). This corresponds to the last mode, resource releasing.

We performed the same calibration process and anchored thresholds for all causal measures (four categories of strategic actions: leveraging, creating, accessing, and releasing). Furthermore, to the best of our knowledge, there has been no study that calibrated firms' strategic attributes by the percentage of action categories. Since the average figures of the causal measures do not change drastically, we use one set of breakpoints to calibrate throughout three periods. The measures for *strategic actions* were calculated as the sum of moves undertaken by a firm in a given period (Smith et al., 1997; Young et al., 1996). In order to neutralize the effect of varying numbers of news items per period, the number of firm actions assigned to a particular category in a particular period was divided by the total number of identified firm actions in that period. To calculate the three breakpoints for each action measure, we took the 10th, 50th, and 90th percentiles, respectively, from the series made of the relative shares from 208 firms for a period of 27 years (1989–2015) in each action category. For example, referring to Table 2, in the CREATING measure, if the relative share of the internally-creating-new-resource category in a certain period was below 4%, a fuzzy score of 0 was given, while a share of more than 40% gave that observation full membership (fuzzy score of 0.95).

Structural attributes: *Firm age* was measured in years between the founding year of the firm and the year of actions under analysis (Miller and Chen, 1996). *Organization's size* was based on the number of employees. For the measure of *market diversity*, two components were included. Geographic diversification ("GEODIV") was measured as the number of markets where the firm sells its products (i.e., America, Asia, Australasia, Europe, Middle East, Scandinavia, and South America). Product diversification ("PRODIV") is the number of product types each firm produces. There were seven options available: pulp, paper, tissue, packaging, forest product, other paper and pulp related products, and others. We used the fs/QCA software package 3.0 (Ragin and Sean, 2017) for this analysis.[2]

Out of the 208 firms that have appeared on the *PPI* Top 100 list once from 1989 to 2015, 61 have exited the industry over the years. While 59 firms exited via mergers and

[2] Moreover, Ragin (2008) recommends avoiding the use of 0.5 as the membership score for causal conditions. Due to the law governing the intersection of fuzzy sets, cases with scores of exactly 0.5 are difficult to analyze. To avoid such technical issues and ensure that no cases are dropped from the analyses, we added a constant of 0.001 to the causal conditions of scores below 1 (Fiss, 2011; Greckhamer, 2011; Ragin, 2008).

acquisitions, only two firms exited via dissolution (see online Appendix 2). Effectively, this results in 67 full cases in the 1989–1999 period, 96 in the 2000–2010 period, and 91 in the 2011–2015 period. A full case in our sample refers to a firm with all the necessary data available for calibration during the period of study.

Insert Table 2 about here

IDENTIFICATION OF SUCCESS RECIPES AND SUCCESSFUL RENEWALS

We first conducted necessity tests of all conditions and their negation, applying a generally accepted rule-of-thumb consistency benchmark of ≥0.9 (Schneider and Wagemann, 2012) and considering coverage as the measure of a necessary condition's relevance (Ragin, 2006). We then proceeded to conduct sufficiency analyses using Ragin's (2008) truth table algorithm. Since the number of cases in one temporal window was relatively large, the minimum acceptable frequency threshold was set to at least two to avoid interference from configurations with one case. The frequency threshold identifies the minimum number of observations that must be present for a truth table row to be included in the analysis. For example, if we specify a frequency threshold of two, any truth table row with fewer than two observations will be classified as a "remainder," that is, it should be treated as if they do not empirically exist. Furthermore, the lowest acceptable raw and PRI (proportional reduction in consistency) consistency score for solution was set at higher or equal to 0.78, which is above the minimum recommended threshold of 0.75 (Ragin, 2006; 2008). Recent QCA studies in top academic journals in management (Dwivedi et al., 2018; Garcia-Castro and Francoeur, 2016) have also applied consistency thresholds of at least 0.75–0.76 in their analyses. However, scores of less than 0.75 generally indicate substantial inconsistency and that a sufficiency relationship does not exist. We followed the current convention and report a combination of parsimonious and intermediate solutions (Fiss, 2011; Ragin and Fiss, 2008).

Further detailed discussions on the nature of the causal inference in the fs/QCA as well as on the set-theoretic definitions of necessity and sufficiency can be found in Ragin (2000); the truth table algorithm is discussed in Ragin (2008); and for more on core and peripheral conditions as well as neutral permutations, see Fiss (2011).

Overall, necessity tests showed no presence of necessary conditions while sufficiency analyses yielded various configurations of structural and strategic attributes linked to superior performance. Table 3 shows the summary of our fuzzy set analyses for three periods. The format and notations for solution tables follow Ragin and Fiss (2008), and Fiss (2011). Black circles ("●") indicate the presence of a condition, and circles with a cross-out ("X") indicate its absence. In addition, large circles refer to core conditions, and small circles represent peripheral conditions. Blank spaces in a solution indicate a "don't care" situation in which the causal condition may be either present or absent.

Table 3 shows that success solutions in all three periods exhibit a level of consistency of over 0.8. Following the convention, we further report the solution coverage. The overall solution coverage scores vary from 0.18 to 0.36, indicating that these configurations account for at least 18% of the instances of outcome (as superior performance) in a certain period. This suggests that there are other high-performing configurations that are not identified in this analysis due to low frequency, meaning single cases. The achieved coverage scores are in line with other studies applying QCA (e.g., Bell et al., 2014; Dwivedi et al., 2018). In addition, there exist only peripheral conditions in configurations from 2011 to 2015. The general implication is that although there is a path to superior profitability after 2011, it does not include core causal conditions. Additionally, it is interesting to note that the number of configurations for superior performance dropped from four pathways to one during the studied period. This trend means that the variety of profitable strategies decreased, which might be due to the lower demand growth trends in the later years.

Insert Table 3 about here

There are two main configurations that lead to superior performance in the first period of 1989 to 1999. S1.1a&b represent old and large firms that generally focus on leveraging on existing resources and internally creating new ones at the same time (subsequently denoted as resource-leveraging and creating activities). Firms such as Boise, Klabin, UPM, Oji Paper, and Weyerhauser followed this recipe. One possible underlying complementary is that long-established and large corporations may possess sufficient resources to carry out both process and product innovation. In some cases, these resource-leveraging and creating activities were supported by the reorganization activities. On the other hand, while S1.2a&b are old firms, they are also well-diversified in both geography and products. Intuitively, because they are diversified, their main strategies have been largely merger and acquisition as well as collaboration. Smurfit Kappa, Domtar, Munksjö, and Suzano Papele Celulose adopted this configuration. Unlike those following configuration S1.1, the firms following the S1.2 recipes had the tendency to acquire new capabilities from external parties.

Turning to the next period of 2000 to 2010, S2.1a&b describes diversified firms (sometimes focusing on both resource-leveraging and creating activities) that secured their superior performance mainly by reallocating or divesting their resources. Solution S2.1a is similar to S1.1a but the causal conditions take turns being either core or peripheral. Examples of firms sticking to recipes S2.1a&b include Suzano Papele Celulose, Metsä, Rayonier, and Neenah Paper. As for configurations S2.2 and S2.3, they encompassed another two alternative paths to superior return but included only peripheral ones. We observed that firms following recipe S2.2 (e.g., Soporcel, Portucel) were diversified (though not necessarily old and large) yet only focused on leveraging on current resources. In contrast, firms echoing

S2.3 (e.g., Procter & Gamble, Kimberly Clark) were old and large corporations whose strategies mainly included creating new resources.

There was only one configuration that led to superior performance in the last period of 2011 to 2015. Firms, such as Procter & Gamble, Kimberly Clark, Mayr-Melnhof, and DS Smith, endorsed this recipe. They were long-established, large, and diversified firms. Their strategies have been a combination of internally creating new resources and externally acquiring resources, which is similar to S2.3 except for an addition action category of collaboration.

In general, while success recipes appear relatively stable between the first two periods, none of them continued to generate superior performance in the third period of analysis. Additionally, the majority of the configurations are simple and they focus around a few key elements. For instance, almost half of the superior performance configurations in Table 3 consist of one single strategic attribute (S1.2a, S2.1b, S2.3, S2.4), a third include two strategic attributes (S1.1b, S1.2b, S3.1), and only a fifth feature a combination of three strategic actions (S1.1a, S2.1a). This finding is contrary to the risk of too simple or monolithic strategies highlighted by Miller and Chen (1996). Miller (1996) further emphasizes the need for reassessment to avoid being too narrowly focused and too simple to match the environmental complexity.

Despite the simplicity of a successful recipe and the fact that firms adopted different structural and strategic configurations in different periods to maintain superior performance, only a few did it successfully. Moreover, complex multiple interactions of organizational attributes potentially contribute to the difficulty of successful transitions between configurations. A further investigation of truth tables and observations consistent with the high performing configurations (Table 3) identified firms that transformed and whether they did it successfully. Of the limited number of firms that manifested successful configurations (the lower part of Table 3), only three firms (Suzano, Kimberly- Clark, and Procter & Gamble) managed to transform from one success formula into another between periods (i.e., successful renewals). No firm successfully transformed twice. *This implies that successful strategic renewal is a rare phenomenon.* Next, we further examine these three cases of successful transformation.

THE PROACTIVE STRATEGIC RENEWALS OF SUZANO, KIMBERLY-CLARK, AND PROCTER & GAMBLE

We followed the best practices in QCA studies by Greckhamer et al. (2018: 491) to return to our case data to complement fs/QCA findings and facilitate configurational theory building through case-level analyses. Similar processes have been followed in other studies, for example in Aversa et al. (2015) and Dwivedi et al. (2018).

In particular, we complement the fs/QCA results by conducting the event structure analysis (ESA) for the three cases that have successfully implemented proactive renewal. ESA offers a systematic procedure to develop a logical structure of observed events and their dependencies, which is guided by the production system logic (Corsano and Heise, 1990; Griffin, 1993; Heise, 1989). We extracted the three firms' key events from newswires and abstracts on Paperbase International database hosted by Innventia. We then established when and why these events were related to one another, and how the current event might depend on other preceding events. This analysis process generated chronological lists of events and their logical relations for the periods of inquiry as illustrated in online Appendices 3.1-3.3. Based on these analyses, we constructed higher-level descriptions of the causal sequences and interdependencies of observed events leading to the outcome of successful renewal in Suzano, Procter & Gamble, and Kimberly-Clark (see Figures 2–4). Such analytical views uncover the proactive renewal process, showing how these firms coordinate their renewal themes to ensure complementary benefits in the new resource configurations and how different action categories influence each other over time to shape the success of the renewal.

Based on the ESA results, we elaborate in this section on (1) how Suzano succeeded in renewal at the turn of the 2000s, and (2) how Kimberly-Clark (K-C) and Procter & Gamble (P&G)[3] renewed and maintained superior performance around 2010.

Insert Figure 2 to 4 about here

Although the successful renewals by the three firms took place in different periods, we observed a common pattern in the broad categories and development paths of the resource-configuring activities. In order to maintain superior performance, that is, to maximize profit margin, firms either maximize sales or minimize costs or do both. On the cost side, it appears that all three firms performed similar activities to control costs. However, there is only so much that they could save via operational-efficiency improvement, capacity adjustment, reorganization, and restructuring. Therefore, on the revenue side, what might guarantee their superior performance are how these firms prepared themselves for the next period's internally resource-creating activities, and how they coordinated resource configuration activities to achieve the complementary benefits. These activities are essential because they are mainly responsible for generating sales.

In particular, Suzano in the 1990s started preparing for new products in consumer packaging through joint ventures, mergers and acquisitions (M&As), and adjusting its production capacity in its mills. In the 2000s, the firm introduced consumer-packaging products and recycled paper. The sales of the new products were supported by the new sales

[3] For comparative purpose, we studied only the P&G's pulp and paper – related business units (baby, feminine, and family care), whose net sales accounts for approximately 27% of the group's revenue (2015 P&G annual report).

strategy to strengthen business-to-business customer relationships through greater transparency. Since the paper and pulp industry, especially in cartonboard, is analogous to other heavy industries such as steel and aluminum, where the sales rely on a few solid customer relationships, it is not surprising that Suzano put effort into building strong and long-term customer relationships. More importantly, the net earnings were further boosted by a new management model, enhancing the firm's reputation with forestry certification, and divesting non-core business in petrochemicals (see Figure 2). Overall, the resource-creating projects in the 2000s by Suzano were supported by resource-leveraging and divestment activities. This combination means that the firm continued refining its current processes and capitalized on its current strengths while pursuing new ventures and products of differentiation. The firm did not hesitate to cut (un)profitable units or markets if these were not serving the long-term goal.

In the cases of P&G and K-C, the introduction of new products in the 2000s was largely supported by in-house innovation centers. Subsequently, the sales engine was powered by overseas research centers as a result of market expansion to emerging markets and new marketing model (e.g., P&G moving to social media advertising). Both K-C and P&G boosted their internal resource-creating activities by collaborating and acquiring new resources from external parties through design (e.g., both firms working with designers to enhance product differentiation) and material-sourcing (e.g., K-C with Booshoot for tissue from bamboo fiber) partnerships (see Figure 3 and 4). This combination worked well since working with new start-ups and research partners might bring in more diverse and better ideas. Acquisitions also might enable firms to become early movers, if not first movers.

In addition, the content of resource-configuring activities was relatively different in each period. In fact, the content of strategies has become more complex. First, during the 1990s, innovation activities mainly focused on new product development. At the turn of the

2000s, firms started to consider new sales and marketing strategies, new material sourcing, and a movement toward sustainability. Second, resource-leveraging activities cover not only new investments in capacity expansion but also operational efficiency through modernizing, the use of big data, implementation of advanced logistic and robotic tools. Third, in the new millennium more emphasis appeared to be put on other collaborative activities as alternative means to access external resources in addition to acquisition. The types of collaboration activities were also temporally different. Collaboration projects were generally meant for new technologies during the 2000s, but after 2010 they were for product designs and new sources of raw materials.

Finally, our findings also indicate that successful transformers tend to pace their renewal by maintaining one strategic activity, and adding new activities in the next period. Such incremental change allows the organizations time to adapt and recover. For instance, Suzano spread out reorganization and divestment activity evenly between periods 1 and 2. K-C and P&G, on the other hand, maintained a stable emphasis on internally creating new resources in periods 2 and 3, but increased collaboration in period 3. The gradualism of Suzano, K-C, and P&G was rendered possible by geographic and product diversification, which muted the effects of the overall downturn in the economy.

DISCUSSION AND CONCLUSION

Our findings add to the literature on strategic renewal by approaching the phenomenon at the industry level. This allows us to detect changes in success formulas, identify firms that successfully shift their strategies, and understand the evolutionary nature of their renewal paths. Moreover, with a detailed analysis of the industry in question we are able to shed light on the interplay of industry characteristics and renewal processes. Our empirical work provides a new level of thoroughness to the study of strategic renewal as we combine industry-level and firm-level analyses on a detailed data set of 208 firms in the global pulp and paper industry over a range of 27 years (1989–2015). This addresses the calls for more longitudinal research on renewal processes (Schmitt et al., 2018; Volberda et al., 2001b). Furthermore, our findings confirm the challenging nature of proactive strategic renewal, as only three firms were able to shift from one success formula to another while sustaining superior performance, and no firm was able to accomplish that twice. Theoretically and methodologically, our research makes three contributions to the strategic renewal literature.

First, we find that success formulas are surprisingly simple. Complementarities between structural and strategic attributes underlie success rather than having something radically new. This relates to Teece's (2019) argument on the necessity of congruence within an organization. For example, efforts to leverage and create resources produce superior performance when associated with reorganization-related activities. In such a high-performing configuration, the focal firm recalibrates its core resources and capabilities in order to boost the development and introduction of various product offerings. The complementarities from this success recipe are the result of enhancing operational efficiency of the existing processes, divesting non-core operations, and pursuing R&D in new material and products of differentiation. In another success formula, innovation tends to pay best when being complemented by external collaboration and acquisition. Through collaborative efforts and M&As, the acquiring firm is not only able to eliminate excess (or adjust) capacity but is also in a stronger position to invest in new technologies with the newly accessed resources. These new innovative projects enable the focal firm to respond to new customer demands through product diversification and differentiation (Garrette et al., 2009; Poppo and Zenger, 1998). A common observation from these successful configurations is that diversification appears to be an effective means of renewal. Superior-performing firms in our sample tend to add complexity to themselves by adding new products, expanding into new markets, and pursuing a set of diverse opportunities. This observation is in line with the recent re-emphasis on the link between diversification and renewal (Pettus et al., 2018). Indeed, such diversification strategy ensures these firms are ready for a broader range of products so that they are able to respond to new customer demand. Aligned with the emphasis on diversification, success appears to come from adding more rather than from removing. When adding more, it is important to design how different activities are connected.

This leads to our second contribution on the renewal paths. Analysis of the three high-to-high renewal cases demonstrates that these firms maintained many strategic activities while progressively adding new ones. Such an incremental process alleviates the risks of multiple simultaneous changes. This finding suggests that successful renewal is an evolving process rather than a discrete move underlining the importance of timing and pacing (cf. Ben-Menahem et al., 2013; Volberda et al., 2001a). In line with the findings of earlier studies on successful renewal cases (Agarwal and Helfat, 2009), our firms released obsolete resources, invested in innovations and product development, enhanced efficiency in operations, and captured market share in growth businesses, such as household papers and packaging. Meanwhile, most firms in the industry continued investing in printing papers, even newsprint, and practically all firms relentlessly minimized costs. They eventually followed the example of the leading firms, yet much later and many faced an existence-threatening decline before engaging in strategic renewal.

Considering the theoretical value of the different temporalities prevalent in the industry – few firms acted fast and proactively, the large mass of others slowly and reactively – elucidates the broader meaning of proactive strategic renewal at the industry level. Firms pioneering in adopting new nonconformist (Kim and Pennings, 2009) strategies engage in institutional work (Zietsma and Lawrence, 2010), changing the ways firms perceive an industry recipe (Spender, 1989). For late-coming firms, the changing market and institutional landscape (Table 1) acted as a stimulus to (reactively) renew their strategies while the pioneering firms offer a model of how to trigger the industry-level renewal. Accordingly, our study joins other studies (e.g., Eggers and Kaplan, 2009; Kim and Pennings, 2009; Lamberg and Tikkanen, 2006; Porac et al., 2011) emphasizing the institutional and cognitive nature of industries. Our study contributes to this stream of literature by elaborating the processual nature of industry-level cognitive and institutional change and especially the role of pioneering companies in catalysing renewal processes.

Third, we introduce the configurational approach to the study of strategic renewal, which allows us to examine how structural and strategic attributes combine in success formulas. Prior studies incorporating performance outcomes have relied on regression-related methods (e.g., Eggers and Kaplan, 2009; Kim and Pennings, 2009; Knott and Posen, 2009), which assume that the impacts of causal factors on the outcome variable are independently generated (Greckhamer et al., 2008). Furthermore, we employed event structure analysis (Corsano and Heise, 1990; Griffin, 1993; Heise, 1989) in order to shed light on the successful renewal processes. We demonstrated how further case-level analyses based on the fs/QCA findings and truth tables can provide insights into configurational transitions and thereby reveal how renewal processes evolve over time. Similar two-step strategies hold potential for further studies on strategic renewal and also for other longitudinal phenomena in strategic management.

We propose two avenues for future research. Our focus was on sustained superior performance, that is, a co-creation approach to strategic renewal. Schmitt et al. (2018) pose the question of whether organizations alternate between co-alignment and co-creation over time and what might trigger such shifts. These questions could be addressed with an application of fs/QCA to an industry-level data set with more numerous shifts in success recipes. This approach could make it possible to identify successive strategic renewals that alternate between proactive (high to high performance) and reactive (low to high performance) types. There may be different kinds of environmental changes, some of which are more conducive to reactive renewals and some to proactive ones.

Another future opportunity would be the study of how the example of pioneering firms diffuses into the whole population of firms in an industry. Earlier studies have found both institutional (Zietsma and Lawrence, 2010) and market-based (e.g., Klepper and Thompson, 2006) explanations for why homogeneity tends to increase after some pioneering firms adopt novel business models and technologies. Also, the numerous case studies on reactive firm-level strategic renewal reveal that the paths to a new normal may be highly idiosyncratic. However, we know considerably less on development paths and their drivers concerning entire populations. Future research could follow existing examples of multi-level systematic studies on renewal paths (e.g., Compagni et al., 2015) to analyse and create theories on how and why firms engage or decide not to follow pioneering firms resulting in industry-level renewal.

Finally, our study produces important managerial implications. First, managers should be aware of the increasing complexity of the strategic content, and the complementary effects between organizational attributes. Successful recipes can be very simple, consisting of a few elements, but the key is how to execute the best combinations. Our findings suggest that efforts of both leveraging on current resources and internally creating new ones produce superior performance when associated with organizational restructuring or resource-redistributing activities, whereas the strategy of innovation and growth tends to benefit the most via external collaboration and acquisition. In addition, managers should adopt multiple strategic approaches for innovation and collaboration, such as new material sourcing, sustainability-oriented culture as well as the use of big data, the implementation of advanced logistic and robotic tools. Second, since renewal is an evolving process, not a discrete move, managers should consider phasing the firm's renewal effort by breaking it into short-term and long-term goals as well as by mobilizing resources to prepare for the next phase's internally resource-creating activities. Critical transitions between superior-performance configurations require consistency, not abrupt shifts.

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Table 1. Pulp and paper industry-shaping forces 1989-2015

	1989-1999	2000-2010	2011-2015
Demand	Starting from the introduction of cable TV and later Internet printing papers, the demand for printing papers gradually declined, first in the US, later in Western Europe, and Australia.	Slowly growing or declining printing paper market resulted in overcapacity, especially in the US and Europe. Demand for packaging materials and tissue exhibited gradual (US and Europe) or strong (China, South America) growth.	Increasing rapid decline in the printing paper market yet simultaneous strong growth in packaging materials (as an outcome of expanding e-commerce).
Technology	Continuing efficiency in printing paper machines, the introduction of record-wide machines in China.	A stable period of low investment rates into new machines.	The main emphasis is on more efficient packaging material machines and conversion of printing paper machines to produce thin paperboard.
Institutional pressure	The overarching institutional pressure was globalization in all forms: homogenization of practices and processes, presence in multiple geographic regions and market segments, and subsequent multipoint competition between the largest companies.	Increasing public pressure, especially from EU authorities, to reduce waste and follow the FSC certificate. Simultaneously, similar pressures to act socially responsible emerged in “new markets”, especially in South America.	Environmentalism and heavy societal pressure signal responsibility in reducing carbon footprint and protecting biodiversity has become a norm in the industry.
New markets (and competitors)	China and Russia open their markets for foreign direct investments, which were lucrative due to the low level of paper consumption originating in the communist era. Simultaneously, especially Asian corporations entered the domestic and global market.	South American firms became more of a threat due to the proximity to land areas suitable for eucalyptus farming.	E-commerce expansion and the subsequent need for packaging materials suddenly tilt US corporations from a declining trajectory to the center of new product development.
Resource competition	The traditional emphasis on Northern hemisphere fibers (mainly spruce and pine) continued, complemented with recycled paper mass.	Eucalyptus becomes a new option for making pulp suitable for packaging materials, increasing the importance of South America as an investment target for incumbent companies and new companies from Argentine, Brazil, and other South American countries.	The importance of Northern fiber rises again as the range of products made from chemical pulp expands.

Table 2. Summary of calibration for outcome and causal conditions

Calibration for Outcome measure

Net profit margin calculated as net earnings (after tax and excluding extraordinary items) divided by sales revenue for each period. Both net profit and sales revenue account for pulp, paper, converting and merchanting operations only.

Percentile	Fuzzy score	1989–1999	2000–2010	2011–2015
0.9	0.95	19.30%	21.50%	11%
0.5	0.5	9.70%	5.60%	4.40%
0.1	0.05	2.40%	1.20%	1.50%

Note: Within a period, firms with an outcome measure of fuzzy score that is equal to or more than 0.95 are considered as superior performers in such period.

Calibration for Structural attributes

		SIZE	AGE	GEODIV	PRODIV
Definition		Firm size is based on the number of employees	Firm age is measured in years between the founding year of the firm and the year of actions under analysis.	Geographic diversification is measured as the number of markets where the firm sells its products	Product diversification is the number of product types each firm produces
Percentile	**Fuzzy score**				
0.9	0.95	25,028	139	5	5
0.5	0.5	5,183	57	2	3
0.1	0.05	1,459	10	1	1

Calibration for Strategic attributes

Four modes of resource configuration		CREATING	LEVERAGING	ACCESSING	RELEASING
Definition		Creating new resources internally	Drawing on existing resources	Accessing new resources from external parties	Shedding existing resources
Examples		New product development, new raw material, new technologies, new R&D activities	Investments or streamlining activities to increase capacity, to enhance operational efficiency and cost savings	Joint venture, alliances, technology consortia, merger and acquisitions	Cutting or deferring capital spending and unessential maintenance, reducing working capital, reducing staff or divesting assets in a business unit
Percentile	**Fuzzy score**	**Share of creating activities over total activities in a period by a firm**	**Share of leveraging activities over total activities in a period by a firm**	**Share of accessing activities over total activities in a period by a firm**	**Share of releasing activities over total activities in a period by a firm**
0.9	0.95	40%	36%	50%	45%
0.5	0.5	21%	14%	32%	25%
0.1	0.05	4%	3%	14%	8%

Table 3. Configurations for achieving superior performance

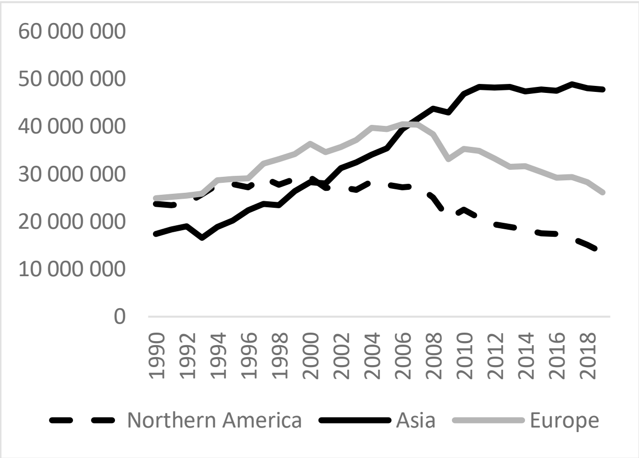
	1989–1999					2000–2010					2011–2015
Configuration	S1.1a	S1.1b	S1.2a	S1.2b		S2.1a	S2.1b	S2.2	S2.3		S3.1
Size (large)	⬤	⬤	●	⊗		⨂	⨂	⊗	●		●
Age (old)	⬤	⬤	⬤	⬤		●	●	⊗	●		●
Geographic diversification (high)	⊗	●	⬤	⬤		⬤	⬤	●	●		●
Product diversification (high)	●	●	⬤	⬤		⬤	⬤	●	⊗		⊗
Creating new resources internally (high)	⬤	⬤	⨂	⨂		●	⊗	⊗	●		●
Leveraging existing resources (high)	⬤	⬤	⨂	⨂		●	⊗	●	⊗		⊗
Accessing new resources from external parties (high)	⨂	⨂	⬤	⬤		⊗	⊗	⊗	⊗		●
Releasing existing resources (high)	●	⊗	⊗	●		⬤	⬤	⊗	⊗		⊗
Consistency	0.82	0.88	0.91	0.87		0.86	0.84	0.84	0.78		0.82
Raw coverage	0.17	0.2	0.16	0.13		0.13	0.16	0.11	0.14		0.18
Unique coverage	0.06	0.06	0.04	0.03		0.02	0.05	0.02	0.07		0.18
Overal solution consistency	0.88					0.81					0.82
Overall solution coverage	0.36					0.28					0.18
Number of cases per anlysis	67					96					91

Black circles indicate the presence of a condition, and circles with an "X" indicate its absence
Large circles indicate core conditions; small ones indicate peripheral conditions.
Blank spaces indicate "don't care"
Note: The gray boxes highlight configurational patterns linked to superior performance across time
(robust to organizational characteristics and environmental conditions)

Consistent observations (firms of superior performance) corresponding to each solution	Boise	UPM	Smurfit Kappa Group	Suzano Papel e Celulose		Suzano Papel e Celulose	Rayonier	Soporcel	Procter & Gamble		Procter & Gamble
	Klabin	Oji Paper	Domtar	Munksjo		Metsa Group	Neenah Paper	Portucel Soporcel	Kimberly Clark		Kimberly Clark
		Weyerhae user									Mayr-Melnhof Karton
											DS Smith

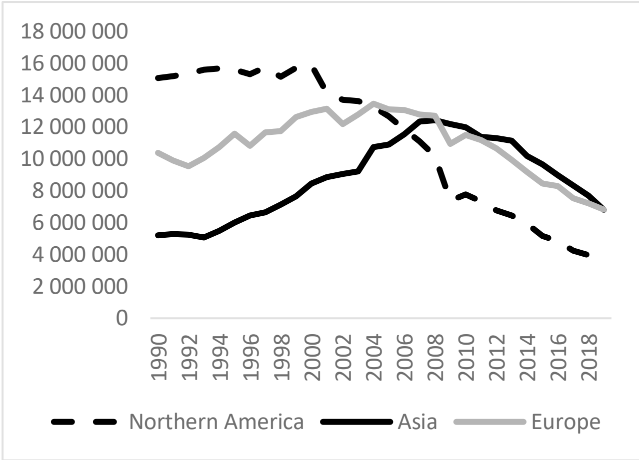
Figure 1. Global pulp and paper market trends[4]

Printing paper, tons



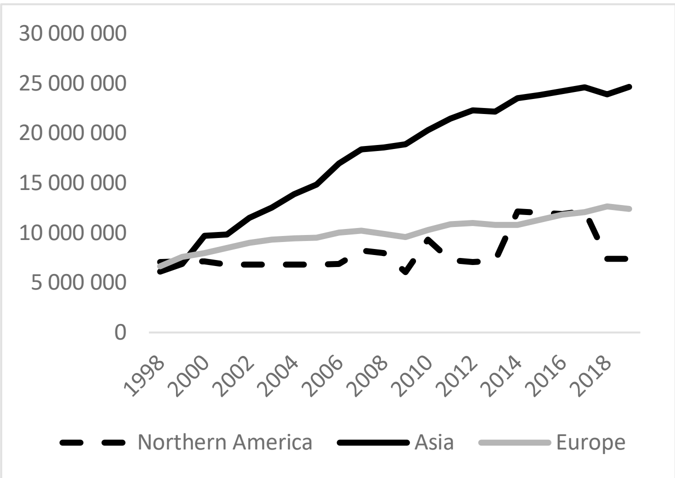
- Marketing: Business to business, based on highly routinized relationship marketing.
- Technology: Technological front-end driven by cost optimization and quality (opacity, whiteness, glossiness, printability).
- Price per ton: Higher than newsprint yet low and trend downwards.

Newsprint, tons



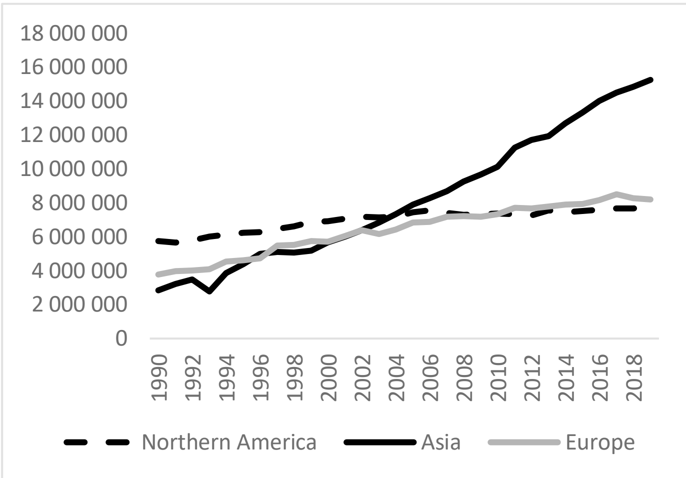
- Marketing: Business to business, based on highly routinized relationship marketing.
- Technology: Highly standardized, driven by efficiency and cost optimization.
- Price per ton: Relatively low and trend downwards.

Cartonboard, tons



- Marketing: Business to business, based on highly routinized relationship marketing.
- Technology: High variety depending on product functionality (range from perfume boxes to industrial wrapping).
- Price per ton: High variety, trend upwards.

Household papers, tons



- Marketing: Business to consumers, based on brand image and distribution channels in retailing.
- Technology: High variety depending on product functionality, less emphasis on efficiency than in printing and newsprint.
- Price per ton: High variety, trend upwards.

[4] Source for the time series: FAOSTAT/Forestry production and trade. Retrieved 10.01.2021 from http://www.fao.org/faostat/en/#data/FO

Figure 2. Analytical view of the causal sequences in Suzano

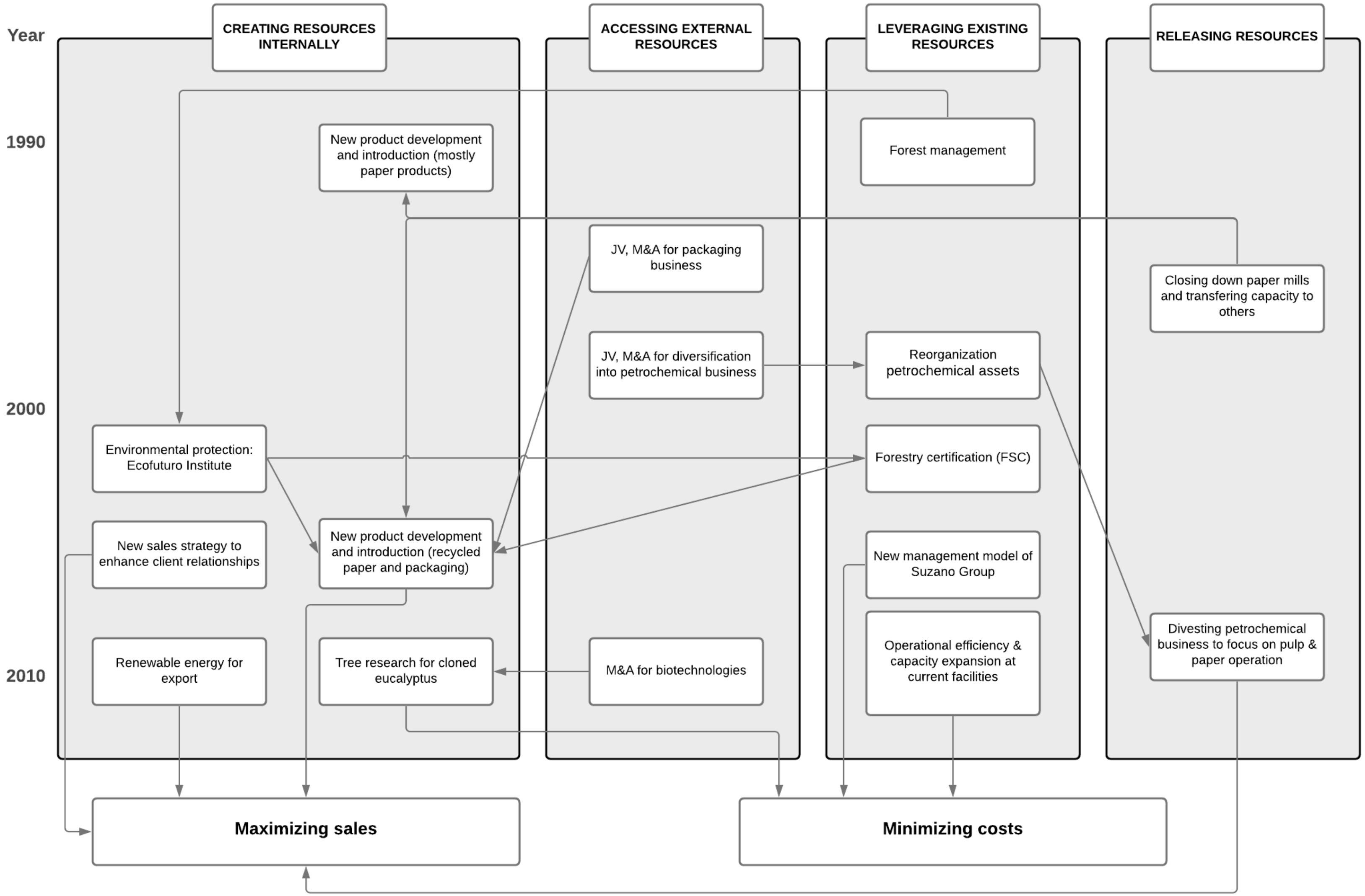


Figure 3. Analytical view of the causal sequences in P&G

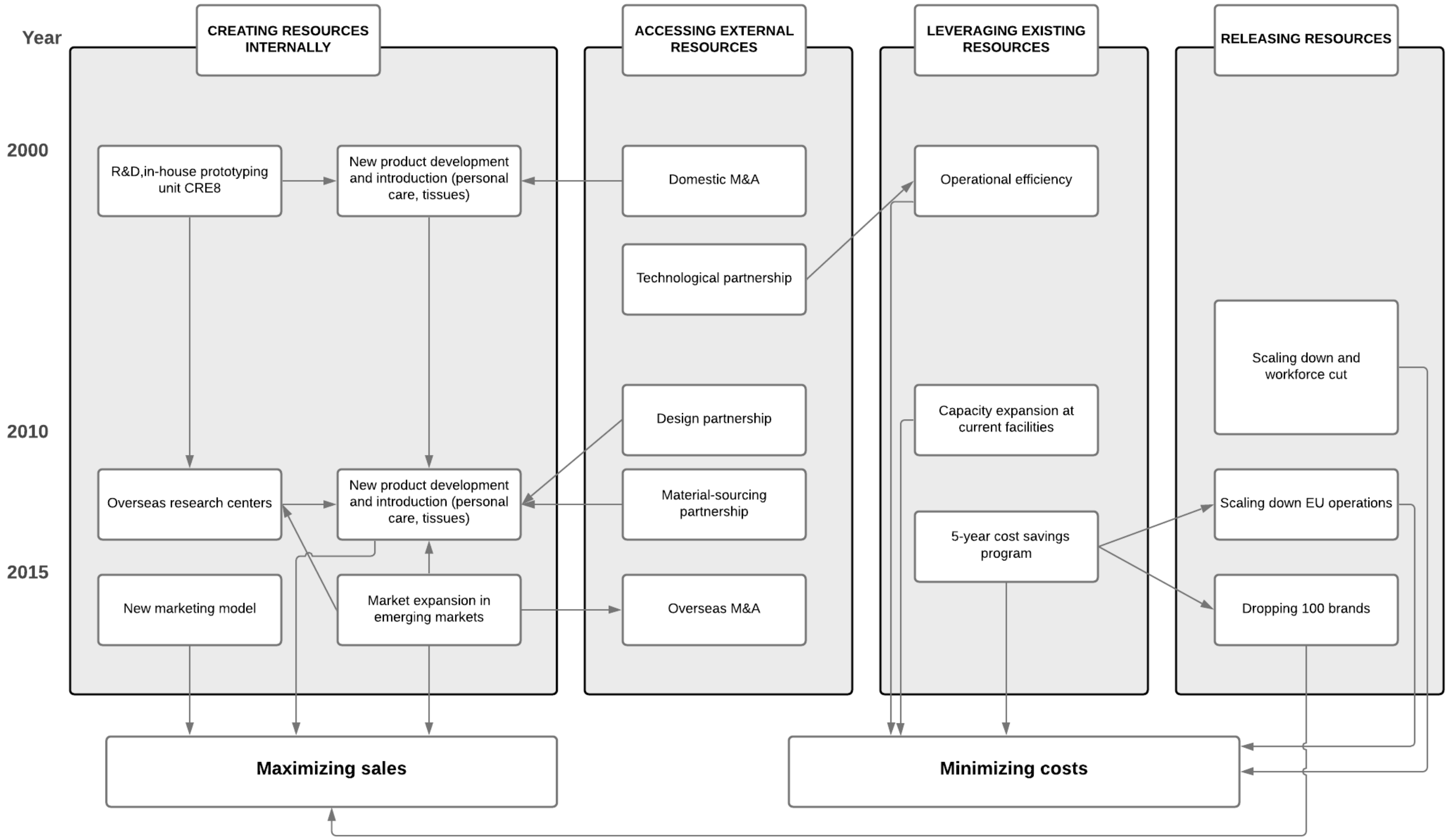
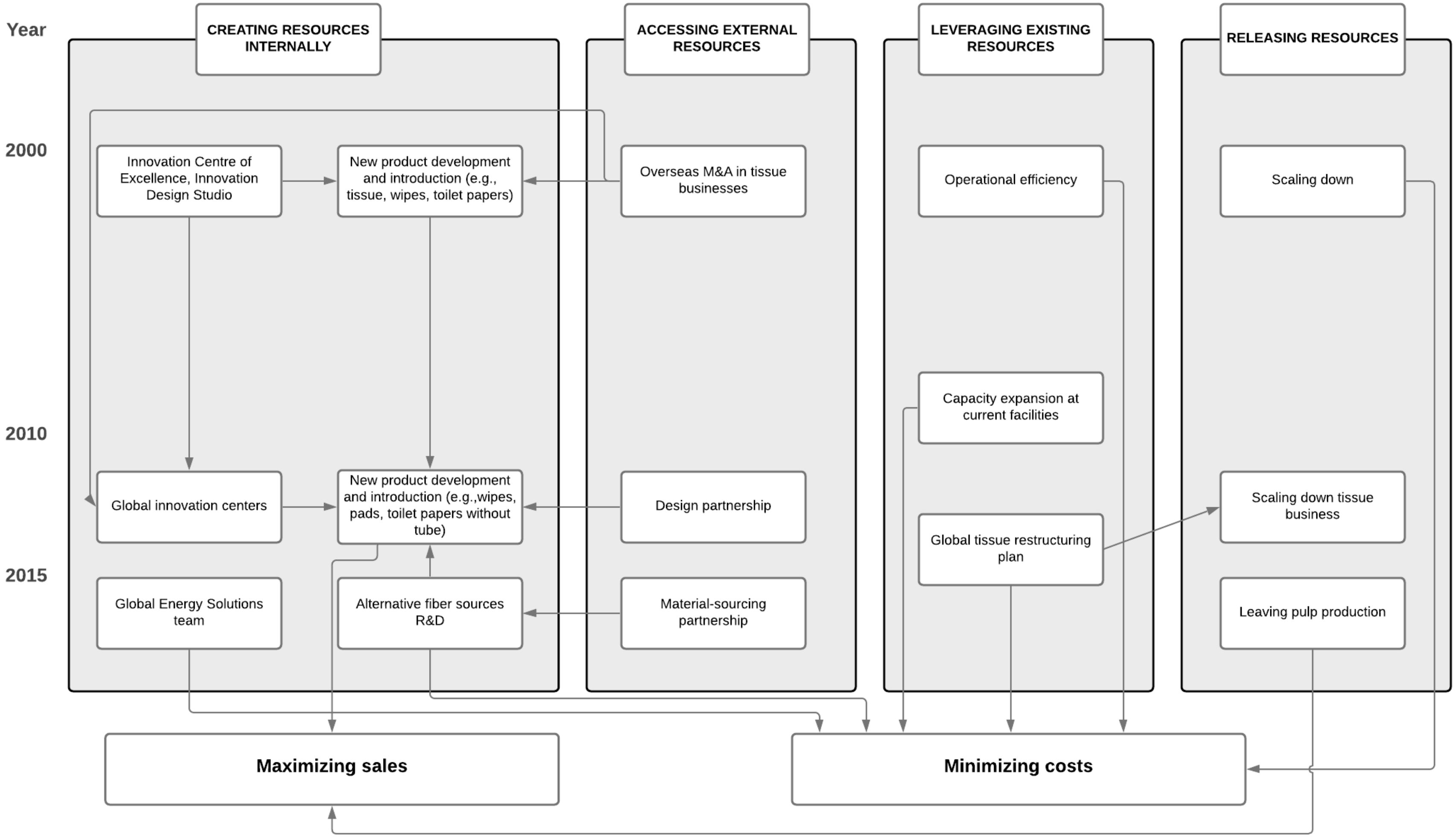


Figure 4. Analytical view of the causal sequences in K-C



II

WHY DO LARGE FIRMS MAKE AN EXIT?

by

Nguyen, Khoa, Ojala, Jari & Lamberg, Juha-Antti

Unpublished manuscript.
Earlier versions of the paper have been presented at the European Business History Association (EBHA) 21st Annual Congress in Vienna and the 79th annual meeting of the Academy of Management 2019 in Boston.

Request a copy from author.

III

ALERT! TREATING LANGUAGE GAME SERIOUSLY IN THE COMPETITIVE INTERACTION: EVIDENCE FROM THE GLOBAL PULP AND PAPER INDUSTRY.

by

Nguyen, Khoa & Nokelainen, Tomi

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Earlier versions of the paper have been presented at the Industry Studies Association (ISA) annual conference 2019 in Nashville, the European Academy of Management (EURAM) 2021 conference, the 81st annual meeting of the Academy of Management (AoM) 2021, and the 2021 Strategic Management Society (SMS) Annual Conference.

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IV

RECONCEPTUALIZING THE FORMATION OF INTERFIRM COMPETITION AND STRATEGIC CHOICES

by

Nguyen, Khoa

Essay IV is under the revise-and-resubmit process at the *Review of Managerial Science*.
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