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CORE RIGIDITIES AND INCUMBENT INERTIA: A STUDY ON THEIR DYNAMICS AND RELATION TO BUSINESS MODEL CHANGE

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Abstract

Title: Core rigidities and incumbent inertia: A study on their dynamics and relation to business model change

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Keywords: Business Model; Business Model Change; Reactive Change; Incumbent Inertia; Core Rigidities; Implied Inertia; Voluntary Inertia

Research question: How do core rigidities interact with incumbent inertia, and how do these dynamics relate to the reactive approach towards business model change?

Methodology: This thesis employs a single case study design for conducting research in the head office of an international bank. A qualitative research strategy was applied, together with an inductive approach. Data collection was framed by an initial set of unstructured interviews, followed by in-depth semi-structured interviews to gain a deeper understanding into phenomena of particular interest. The aim was to observe emergent theory.

Theoretical perspectives: The umbrella concept of this study is business model change. The typology of reactive and proactive business model change was used, and focus was placed on the antecedent factors leading to reactive approaches. In particular, the antecedent factors of incumbent inertia and core rigidities were analyzed in detail. The core theoretical perspective is related to the business model as a continuous evolutionary process, as opposed to a static snapshot.

Conclusions: This thesis adds to the understanding of incumbent inertia through the conceptual separation between voluntary inertia and implied inertia, and the analyzed dynamics of each in relation to core rigidities. Consequently, core rigidities are conceptually shown to be separate from incumbent inertia, concepts which are often confused in extant literature. Furthermore, the dynamics between core rigidities and the two types of incumbent inertia have been shown to have a direct influence on the extent of reactive approaches towards change. A model is presented based on a time axis, with voluntary inertia leading to core rigidities, and core rigidities creating constraints under which the firm must operate - phenomenon referred to as implied inertia. Additionally, we relate company efficiency, culture, and structure to these dynamics.

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Chapter 1: Introduction

1.1 Background

Business model theory paves the conceptual background for unlocking economic value from technology innovation, by acting as the mechanism that enables value propositions (Wang et al., 2009). In the context of changes external to the firm, proper business model evolution allows organizations not only to survive, but to achieve competitive advantage in their markets. Chesbrough (2006) acknowledges that the path to thriving companies is through business model [BM] adaptations, in a way that enables firms to be more receptive of external ideas and alternative paths to market. Strengthening the importance of BMs, Chesbrough (2010) goes as far as proposing that *"a mediocre technology pursued within a great business model may be more valuable than a great technology exploited via a mediocre business model"*. Business model novelty has the potential to facilitate superior value creation (Morris et al., 2005), alter the economics of an industry (Magretta, 2002), and even completely destabilize competitors (Kim and Mauborgne, 1997). In the context of the above-mentioned importance associated with business models, it is therefore surprising to realise that the concept is considered in academic literature as elusive, allowing for increased interpretative flexibility (Massa and Tucci, 2013). Furthermore, until recently, very little attention has been devoted to researching how companies can achieve business model innovation (Wirtz et al., 2010).

For the purposes of this article, we define the business model as the way in which a firm operates in terms of developing, delivering, and capturing value by mediating between technological development and value creation (Taran, 2001; Floren and Agostini, 2015; Chesbrough and Rosenbloom, 2002).

We differentiate between business model change and business model innovation [BMI]. Although various authors refer to business model change as BMI (Massa and Tucci, 2013; Floren

and Agostini, 2015), we argue that a business model change may or may not be innovative. Hence, our view is centered around defining BMI using the perspective put forward by Bucherer et al. (2002), and by adding the emphasized role of innovation to it. Consequently, we define BMI as a process which deliberately modifies core business logic elements (Bucherer et al., 2002) in an innovative way. Conversely, we define BM change as any modification to the business logic elements. This definition offers a deliberately broad perspective, and we emphasize the fact that BMI is one type of BM change. We posit that the challenges and opportunities associated with business model change may be different based on whether the firm has a reactive or a proactive approach to enacting the change, following the train of thought proposed by Taran and Boer (2015). According to the same authors, most firms operate under a *"more of the same"* approach, generally referring to product/service development. Most firms have been found to rarely, if ever, change or even question their existing business models (Taran and Boer, 2015). Consequently, we argue that most firms have reactive tendencies when it comes to business model change, triggered by an organizational reaction to a host of external environment factors, such as demographic, socio-cultural, political/legal, technological, economic, and ecological. Demil and Lecocq (2010) refer to these external factors as "jolts", arguing that they have the capability to disrupt the firm's usual functioning in an abrupt manner. Therefore, the challenge lies with each firm to adapt its business model in a way that not only allows it to survive, but to achieve competitive advantage and thrive. The external factors can be regarded as strategic discontinuities. Such disruptions call for changes in the BM of firms (Doz and Kosonen, 2010), hence a clear relation exists between external business environment disruptions and BM changes. An important distinction implied by Demil and Lecocq (2010) refers to the fact that a firm may foresee these environmental changes, or it may not. Foreseeing them would allow a proactive business model change, while merely observing environmental changes only leaves room for a reactionary approach. Moreover, Demil and Lecocq (2010) argue that a firm possessing dynamic consistency has the capabilities required to anticipate change sequences, which would allow it to enact incremental or radical changes to its business model, in order to maintain or restore ongoing performance. Hence, we can associate a firm's dynamic consistency capability with the ability to implement proactive BM changes. However, the topic

related to particular challenges and consequences of a reactive approach remains elusive, despite the fact that most firms are likely to adopt it (Taran and Boer, 2015). Organizational learning and choices that incumbents make when faced with external threats, such as disruptive technologies, are important aspects that will dictate the organizational ability to survive and adapt in a changing context (Gunzel and Holm, 2013).

We posit in favor of a clear distinction between antecedents and consequences of a reactive approach to BM change. Making use of a single case study, this article will focus on antecedent factors leading to a reactive approach to BM change. Due to the nature of the study focusing on existing parameters within the firm, we will place our emphasis on the antecedent factors as opposed to consequences, since consequences may not be fully developed, visible, or internally recognizable at this point in time in the analyzed case company. Focusing on specific antecedent factors, this article will emphasize their dynamics and the effects of these dynamics on the reactive approach towards BM change.

1.2 Problem discussion

Extant academic literature uncovered various antecedent factors leading to a reactive approach to BM change. This section will briefly outline the most influential ones, identify the factors which will serve as the research focus of this article, and justify the importance of this particular analysis. The evolutionary firm perspective proposed by Doz and Kosonen (2010) argues in favor of the existence of a natural progression of firms towards stability. In other words, the lack of active intervention in the BM of a firm leads to a natural *lock-in* mechanism favoring a *more of the same* approach, which brings the risk of what Levinthal and March (1993) define as *the success trap*. Therefore, past strategic orientations (Saebi et al., 2017) have a tendency to entrench the firm in the success trap, particularly if prior orientations were fruitful. Reactive BM change approaches are favored by what Levinthal and March (1993) call *organizational myopia*, which contributes towards an over-emphasis of exploitation at the cost of exploration. From an organizational and human-resources perspective, Beckman (2006) posits that if within a

company teams are mainly formed through people with prior organizational affiliations, the more of the same approach will be inherently favored and change may only occur in a reactionary way, if no other solution is found to conduct business in the same way as in the past. At the same time, consistent use of a single type of organizational structure, unadjusted to better serve time-specific challenges, further entrenches the firm in an inability to foresee and pre-emptively adjust its BM (Bradach, 1997). A similar proposition is highlighted by Janen et al. (2006), acknowledging that centralization and formalization serve as precursors to exploitation of entrenched mechanisms and internal systems without an outlook to what may be above the horizon.

Perhaps the most fitting conceptualization of antecedent factors leading to a reactive BM change approach is provided by Leonard-Barton (1992) with her theory on core capabilities and core rigidities. In order for a capability to be defined as *core*, it must differentiate the firm in a strategic way (Leonard-Barton, 1992). Core capabilities have been often referred to in literature as core competencies (Hamel and Prahalad, 1990). Hamel and Prahalad (1990) refine what constitutes a core competency: (1) it must provide consumer benefits, (2) it must not be easy for competitors to imitate, and (3) the company must be able to leverage it widely for many products, in many markets. In order to better outline the effects of core rigidities (representing the negative side of core capabilities), we emphasize the definition of core capabilities as *"a set of differentiated skills, complementary assets, and routines that provide the basis for a firm's competitive capacities and sustainable advantage in a particular business"* (Teece et al., 1990). Having conceptually outlined core capabilities, we acknowledge the presence of core rigidities (Leonard-Barton, 1992). Core rigidities, representing the negative side of core capabilities, are best described as factors impeding projects which are unaligned with the status quo of a firm, defined by its core capabilities. In other words, core rigidities imply a *more of the same* approach for business operation, irrespective of whether this status quo is successful or not. Consequently, we posit that core rigidities represent one of the most prominent antecedent factors leading to a reactive BM change approach, since they promote the historical, entrenched way of firm operations until this approach is no longer sustainable - at this point, the firm reacts to the outside environment and enacts a BM change.

Limited firm flexibility is referred to as *incumbent inertia* (Lieberman and Montgomery, 1988). More specifically, if a firm shows a tendency to be organizationally inflexible, be locked-in to a specific set of fixed assets, and be reluctant to develop new offerings out of fear of cannibalizing existing product lines, it is therefore defined that the firm has inhibited ability to respond to changes in its business environment (Lieberman and Montgomery, 1988). This inhibited ability to respond to changes makes it conceptually impossible for the firm to foresee these changes and employ a proactive approach to change. Furthermore, the inhibited ability does not refer to impossibility - therefore, inhibited ability to respond to change is interpreted as slow and inefficient response to externally-mandated change, clearly positioning incumbent inertia as an important antecedent factor leading to a purely reactive approach towards BM change.

Having outlined the main antecedent factors present in extant literature, we identify incumbent inertia and core rigidities as particularly intriguing and thought-provoking. Despite their similarities, as explained below, they interact using specific dynamics depending on company circumstances and one concept helps explain and expand on the other in the context of reactive approaches towards BM change - while maintaining a clear difference between what each concept means. There is a significant gap in literature regarding these two elements, especially when it comes to differentiation between them and how they interact with each other. As will be demonstrated, this interaction is salient in terms of how the reactive approach is influenced. In addition, empirical research into these concepts is salient for more precise and better tailored managerial recommendations.

Both inertia and core rigidities are based on elements which bring value for the company. In the absence of context change, inertia can be interpreted as the firm becoming efficient. Similarly, core rigidities are based on core capabilities, which by definition are beneficial to the company (Leonard-Barton, 1992). However, we outline the fact that inertia is based on intent (hereby understood as performing an action while being aware of what such action entails in term of the reasoning behind it), and differentiate between two variants: *voluntary inertia* and *implied*

inertia. Voluntary inertia is a set of intent-based actions aimed at repeating prior success (Levinthal and March, 1993). Left unchecked, voluntary inertia leads to a success trap, which is a precursor leading to core rigidities (Leonard-Barton, 1992). On the other hand, implied inertia represents a set of actions taken due to being forced to work within the constraints of existing core rigidities, and is therefore a consequence of core rigidities. We highlight the main difference between incumbent inertia and core rigidities as being represented by intent and awareness. If both voluntary and implied inertia are based on intent (in the case of implied inertia, it is forced-upon intent based on existing rigidity-based constraints), core rigidities are not. Core rigidities are a natural evolution towards stability, if left unchecked (Doz and Kosonen, 2010). The differentiation between voluntary and implied inertia is salient in order to expand current academic understanding on the related topics, and we use it to better define the notion of incumbent inertia as well as use it to further expand academic understanding of core rigidities, their causes and their consequences. The dynamics between core rigidities and incumbent inertia (albeit both phenomena lead to a reactive approach towards BM change) are important to empirically study since their causal relation is opposite depending on whether we refer to voluntary or implied inertia - therefore, potential understanding of solutions and prevention of reactive BM change approaches is different based on the specific inertia/rigidity dynamic within the firm. Whether the firm actions are based on voluntary inertia or implied inertia is vastly different in relation to core rigidities, and how it consequently influences reactive BM change approaches. Further review of the notions summarised here is available in section 2.2.

1.3 Purpose and research question

Having identified in extant literature the antecedent factors influencing BM change, and particularly leading to reactive BM change (henceforth referred to simply as *antecedent factors*), we highlighted *core rigidities* and *incumbent inertia* as being of particular importance for the purposes of this research. The purpose of this thesis is to analyse the dynamics between core rigidities and incumbent inertia, focusing on our differentiation between *voluntary* and *implied* inertia. Although both inertia and core rigidities lead to a reactive BM change approach, the way

in which this happens is vastly different depending on whether or not the firm acts based on voluntary inertia (which leads to core rigidities) or based on implied inertia (which is a consequence of core rigidities, and represents a more advanced stage of reactive approach). Analyzing these dynamics is important for further expanding the understanding of incumbent inertia, as well as core rigidities and how their dynamic relates to reactive BM change approaches. We propose the following research question:

RESEARCH QUESTION

How do core rigidities interact with incumbent inertia, and how do these dynamics relate to the reactive approach towards business model change?

1.4 Case company

This section provides an overview of the firm in which this study took place. We disclose that in order to ensure NDA compliance, we anonymized the specific firm details which are uniquely identifiable to the firm in question and irrelevant for the purposes of this study. Moreover, we only disclose the information which is required for understanding the context, challenges, opportunities and importance of the research.

The composition of the research is a single case study, as we are concerned with the complexity and particular nature of a specific identified issue (Stake, 1995). The single case study organization is a representative, typical case for an identified phenomenon, while also presenting opportunities as a longitudinal case: we observe the phenomenon on a time-axis in order to evaluate progression (Yin, 2003).

The case company is a legacy banking firm based in Scandinavia (the company holds an international presence in Europe). It offers private and corporate services, with a focus on

savings accounts, loans, credit cards, invoice factoring, leasing services and retail financing. Historically, the bank started with an entrepreneurial focus followed by a reactive strategy in relation to its BM change approach. Operating under private ownership, it has an important history in its sector allowing it the advantage of noteworthy brand equity in its home market. Of particular interest to this study is the fact that it shows clear evidence of core rigidities and incumbent inertia, as evidenced by the data collected. This further emphasizes the applicability of this case study as typical case for the identified phenomena, and serves as an appropriate context for analyzing the dynamics between these antecedent factors. In terms of size, the firm employs approximately 1000 people, with its home country being also its largest.

The case company has been experiencing the challenges that the sudden shift in industry paradigm brings and the opportunities it may give rise to. Partly due to its legacy status in a heavily legislated sector (banking), the firm has been historically reactive to any outside changes. This further allows it to be a representative case for a wider phenomenon, allowing for generalizable conclusions to be drawn which can benefit multiple industries under similar conditions. More specifically, the firm has a culture generally based around adapting its BM reactively when triggered by external factors, primarily legal and technological. Although this has generally been considered a successful approach, new industry changes bring with it the emergence of non-legacy competitors focused on proactive development, namely financial technology (fintech) companies. This pegs the firm against proactive competition, and its legacy reactionary approach may enable crucial challenges and long-term, strategic consequences. Additionally, we note that due to the low radicality and reach of planned BM changes, the firm cannot be regarded as an empirical example of business model innovation due to its focus on incrementality, and on adopting changes new to the company, but not new to the wider competitive environment (Taran and Boer, 2015). This is in line with our chosen definition of business model innovation (*a process which deliberately modifies core business logic elements in an innovative way*), by empirically observing the lack of such deliberate actions in the case company.

We proposed the definition of the business model as *a the way in which a firm operates in terms of developing, delivering, and capturing value by mediating between technological development and value creation*. This approach matches the observable phenomena of the case company, as demonstrated through collected data. In terms of business model change (defined by us as *any modification to the business logic elements*), we empirically observed attempts to do so by the upper echelons of management only as a reaction to the external environment, further highlighting the company's reactive approach to business model change. Based on this evidence, we qualify our study scenario as a valid context for answering the proposed research questions, focused on antecedent factors leading to a reactive approach to business model change.

Raisch and Birkinshaw (2008) define organizational ambidexterity as a firm's ability to perform effectively and efficiently in current market demands, as well as maintain adaptability to external business environment changes. Following previously outlined theory, we posit that organizational ambidexterity can only be associated with a proactive approach to change. Conversely, reactive firms do not possess notable levels of organizational ambidexterity. Hence, the antecedents required for ambidexterity cannot be present inside organizations at the same time as antecedent factors leading to reactive approaches to BM change. We use this theory as a qualifying factor for the chosen case company, demonstrating the reactive approach towards BM change through the lack of antecedents required for ambidexterity. By analyzing extant literature on the antecedents for ambidexterity, we can correlate the absence of these to antecedents leading to reactive BM changes. Hence, we demonstrate the absence of ambidexterity in the chosen firm and demonstrate the applicability of the case company as a clear generalizable situation, particularly well suited for the purposes of this research.

Bradach (1997) empirically showed that simultaneously using a variety of organizational structures led to increased firm performance, by serving as an antecedent to ambidexterity. Hence, we posit that consistent use of only one type of organizational structure serves as an antecedent factor to a reactive approach to BM change. Indeed, the case company chosen for the purposes of this study employs a typical organizational structure, and lacks hierarchical variety.

Also in terms of organizational hierarchy, centralization has been found to negatively impact exploration (Jansen et al., 2006), and thus ambidexterity (Raisch and Birkinshaw, 2008). Moreover, formalization further strengthens the exploitative perspective (Jansen et al., 2006). As a consequence, we can associate centralization and formalization with antecedents of reactive approaches. Centralization and formalization are clearly evident in the case company, which is a direct consequence of the highly regulated industry in which it operates: banking. However, this does not change the fact that this type of structure leads to lack of ambidexterity and towards reactive approaches to change. Gibson and Birkinshaw (2004) demonstrate that ambidexterity is facilitated by stretch, discipline, support, and trust, in combination. Hence, anomalies in any of these areas may lead to reactive approaches. Stretch, referring to employees voluntarily aiming for more ambitious objectives (Gibson and Birkinshaw, 2004), is limited within the case company mainly due to its over-reliance on legacy systems which do not hold the capability of sustaining ambitious projects. Based on collected internal data, we also demonstrate lack of discipline as defined by Gibson and Birkinshaw (2004) in terms of a lack of an open and honest rapid feedback mechanism or procedure. Support, referred to as a system allowing employees access to overall company resources and freedom of initiative at lower levels (Gibson and Birkinshaw, 2004), is also not properly employed by the firm - for example, bottom-up ideation procedures are inherently absent. Last, but not least, trust (defined by Gibson and Birkinshaw, 2004, as a factor that induces employees to rely on the commitments of each other and involvement of lower-ranked employees in decisions and activities affecting them) is present only up to an extent within the firm. However, as the theory suggests, all these four factors must be effective and work in combination in order to lead to ambidexterity - hence, we demonstrate the lack of ambidexterity in the case company, serving as further evidence and basis of its reactive approach towards BM change.

1.5 Outline of the thesis

This thesis is comprised of six chapters. The first chapter outlined the background and context for the study, while simultaneously discussing the problem which is to be explored in the article. This presents a logical flow towards the research focus and research question, which have been justified from both a practical and conceptual perspective. Last, but not least, chapter one introduced the case company under whose boundaries this research took place. The qualifying factors for this case company were presented, demonstrating applicability of this research to the context of the chosen firm and also evidencing the generalizability of findings. Chapter two presents a narrative of the academic literature regarding all pertinent concepts for this research project. Employing a logical flow based on high-level concepts leading to narrower-level constructs, this chapter places a high emphasis on existing conceptual evidence of antecedent factors leading to a reactive approach towards BM change. This allows for the identification of areas where new knowledge can be created, while simultaneously providing a solid theoretical basis for the thesis and evidencing the constructs identified as essential to the article in terms of further exploration. The methodology regarding empirical observations is presented in chapter 3, outlining the main approach to data collection and analysis. In particular, this chapter places a high emphasis on the justification surrounding the chosen data collection methods, explaining the selection criteria for interviewees, and also justifying each question of the interview guide based on concepts identified in the literature review chapter. Chapter 4 presents the relevant findings of this article based on the data collected using the methodology outlined in chapter 3. Chapter 5 infuses meaning into these findings through pertinent analysis. Lastly, chapter 6 outlines the conclusions resulting from this article, including practical implications, limitations, as well as provides suggestions for further research.

Chapter 2: Literature review

2.1 Antecedent factors to a reactive approach towards BM change

The core capabilities of a firm are defined as its knowledge that sets it apart and generates competitive advantage (Leonard-Barton, 1992). We identify core capabilities theory as an important precursor to institutionalized capabilities, which according to Lieberman and Montgomery (1988) set the basis for incumbent inertia which can be regarded as a rational response from the firm by ramping up the use of knowledge and skills which increased profits in the past. However, it may also lead to organizational decline. This is best outlined by identifying the three root causes of incumbent inertia, as proposed by Lieberman and Montgomery (1988): (1) the organization experiencing a lock-in effect to its already deployed assets, (2) a reluctance from the firm to develop new offerings out of fear of cannibalizing already existing product lines, and (3) inflexibility in terms of firm structure. Incumbent inertia provides an important conceptual link to the "more of the same" approach to BM evolution as described by Taran and Boer (2015). Relating the "more of the same" approach to employing change only when absolutely required, we posit that this provides a conceptual causal connection to the reactive approach towards BM change. Consequently, we identify the incumbent inertia as an important antecedent factor influencing the choice of reactive approaches to change as opposed to proactive approaches. Leonard-Barton (1992) also empirically proves the potential negative consequences of core capabilities by analyzing them from two opposing perspectives based on their four dimensions, namely (1) employee knowledge and skills, (2) technical systems, (3) managerial systems, and (4) the values and norms (Leonard-Barton, 1992). This opposing perspectives analysis recognizes the paradox that core capabilities simultaneously enhance and inhibit development (Leonard-Barton, 1992). On one hand, core capabilities increase the possibility for a firm to exploit new technologies within the area of the already developed core capability based on the firm's knowledge set within particular fields. On the other hand, we recognize that such capabilities may relate to incumbent inertia (Lieberman and Montgomery,

1988). This inhibiting characteristic of core capabilities, conceptually related to incumbent inertia, is referred to by Leonard-Barton (1992) as *core rigidities*. Core rigidities can be best visualized by referring to them as factors facilitating the dismissal of internal projects which are not aligned with the core knowledge set of the firm.

Particularly placing focus on changing competitive environments, which coincides with the context of the case company employed for the purposes of this study, organizational survival is arguably closely linked to intentionally disturbing the old fit (Chakravarthy, 1988). Based on this logic, any important antecedents to heavily reactive approaches to change are counter-productive to organizational survival in the context of business environment change. This may be against the natural evolution of firms, as identified by Doz and Kosonen (2010), who argue that firms naturally evolve their BMs towards stability. Consequently, we identify core rigidities as naturally-occurring phenomena in the absence of intentional leadership intervention. A potential solution is the development of three meta-capabilities, namely (1) strategic sensitivity, (2) leadership unity, and (3) resource fluidity which facilitate the dynamization of the firm (Doz and Kosonen, 2010). The development of these three meta-capabilities counter-balances the main drivers of core rigidities, identified by Schreyogg and Kliesch-Eberl (2007) as path dependency, structural inertia, and firm commitment. Figure 1 visually describes the core concepts of this thesis. Subsequently, we will continue by reviewing further literature pertaining to these concepts.

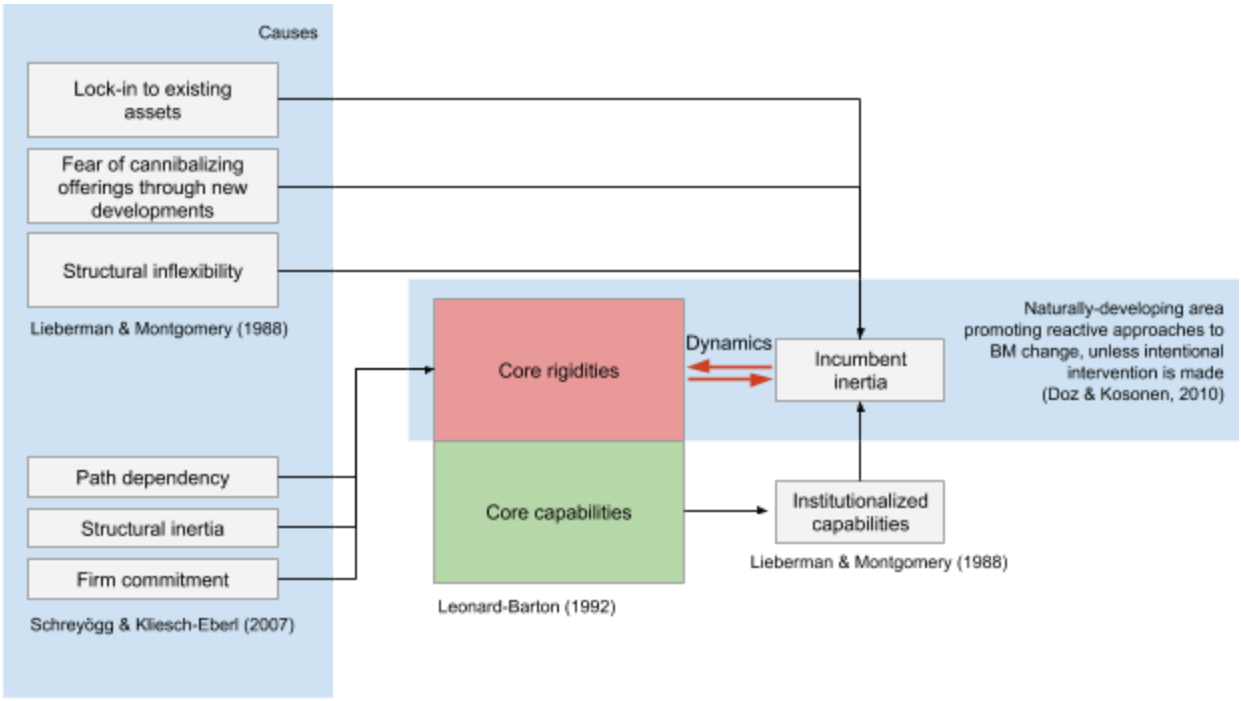

Figure 1: Core concepts for this study, visualized

Managing the paradox of core capabilities and core rigidities is essential in order to ensure that core rigidities do not proliferate. The study by Leonard-Barton (1992) empirically proves that managers, when faced the paradox, tend to handle it in one of four ways: (1) Abandonment (abandoning the project), (2) Recidivism (returning to core capabilities for solutions), (3) Reorientation (turning the orientation towards core capabilities), or (4) Isolation (isolating the project from the core capabilities). The first three approaches are, arguably, proliferating core rigidities. As for isolation from core capabilities, while this does protect the project from the negative side of core competencies, it also restricts the proliferation of organizational learning from unaligned projects. The dual process model of capability dynamization offers a conceptual solution against rigidity, by advocating the implementation of two distinct processes, namely the practice of capabilities leading to excellence and efficiency in the firm, and in parallel the reflexive monitoring of these actions in order to check their ongoing validity in relation to a potentially dynamic and unpredictable business environment (Schreyogg and Kliesch−Eberl, 2007). The latter process has the role of initiating a capability change, if required. However,

Schreyogg and Kliesch−Eberl (2007) acknowledge that extreme dynamization opens the firm to the risk of dissolving its original core capabilities. By isolating the most influential antecedent factors leading to the reactive BM change approach, we can empirically describe the dynamics between them and the effect that these dynamics have on the firm's approach to BM change.

In the context of external discontinuities, Tushman and Anderson (1986) argue that technological change can enhance or destroy already existing firm competencies - external innovations bring, therefore, the risk of undermining knowledge deeply embedded into some firms (Henderson and Clark, 1990). Core capabilities theory provides an important conceptual link to incumbent inertia (and with reactive attitudes towards BM change) as both theoretically outline the risk associated with deeply embedded organizational knowledge, combined with the inability to foresee changes (or inability act on foreseen ones) in factors external to the company: these may bring alterations to the market status quo in a way that damages the firm's ability to create value for its customers.

Organizations tend to overfocus on the short-term virtues of local refinement (Levinthal and March, 1981). As companies gain experience and competencies in a particular activity, they further engage in that activity - a dynamic characterized as "the success trap" (Levinthal and March, 1993). Organizational myopia, as outlined by Levinthal and March (1993), comprises of temporal myopia (sacrificing the long-term perspective to the short-term advantages), spatial myopia (favorizing effects occurring near the learner), and failure myopia (oversampling successes and undersampling failures). Altogether, these types of organizational myopia contribute to exploitation at the cost of exploration, and may serve as conceptual evidence towards the nature of what leads firms to a reactive-only approach to change. Therefore, we posit that organizational myopia represents an antecedent factor to reactive BM changes. BM changes tend to be fully unsuccessful if inhibiting factors, explicitly cultural readiness and change management, are absent (Guha et al., 1997). Consequently, we argue that through the lens viewing reactive BM changes as mandated by the external environment and not by internal firm leadership, the absence of cultural readiness and appropriate change management favor the status quo, and hence serve as further antecedents to reactive approaches.

A summary of antecedent factors deduced from extant literature is presented in a table format in Appendix 1.

2.2 Voluntary inertia, implied inertia, and core rigidities

Summing up academic references on the parallel between incumbent inertia and core rigidities described in the previous heading, we highlight the position of Lieberman and Montgomery (1988) who define incumbent inertia as a rational response from the firm by ramping up the use of knowledge and skills which increased profits in the past. However, it may also lead to organizational decline if new market realities invalidate the effectiveness of priorly-fruitful sets of actions. Gilbert (2005) describes organizational inertia as the tendency of an organization to continue on its current trajectory. However, these definitions do not cover the potential of multiple types of inertia. Core rigidities can be regarded as factors facilitating the dismissal of internal projects which are not aligned with the core knowledge set of the company (Leonard-Barton, 1992).

Both incumbent inertia and core rigidities have their basis in elements which may bring value to the firm in the context of predictable environment and stability: core rigidities have their basis in core capabilities which are, by definition, beneficial to value creation, delivery, and capture; conversely, incumbent inertia increases efficiency if circumstances do not change. Both similarly represent a risk associated with deeply embedded organizational knowledge combined with an inability to foresee relevant external change.

Extant literature (Levinthal and March, 1993) suggests that incumbent inertia is related to an intentional and voluntary (albeit often misinformed) short-term action, desirably leading to a predictable outcome, referred to as “the success trap”, which leads to core rigidity (Leonard-Barton, 1992). On the other hand, we also argue that inertia could be triggered by an inability to act independently of past habits, potentially due to lack of resources necessary for

alternatives, or current systems employing too many sunk costs - this is often labelled as economic inertia by various authors (Gilbert, 2005; Besson and Rowe, 2012; Haag, 2014). This twofold differentiation of incumbent inertia is salient in relation to core rigidities, since *voluntary inertia* leads to core rigidities, unlike *implied inertia*, which is a direct result of acting within the constraints of existing core rigidities. Both types of incumbent inertia are, however, related to intent (unlike core rigidities) - albeit in the case of implied inertia it is a forced intent based on internal company rigidities. We define intent as performing an action while being aware of what such action entails in terms of the reasoning behind it.

Core rigidities represent the natural evolution of core capabilities towards stability (Doz and Kosonen, 2010), which occurs independently from intent. If we refer to the type of inertia characterized by *voluntary intent* (which we refer to as **voluntary inertia**), core rigidities are a consequent side-effect by arguing that inertia leads the transformation from core capabilities into core rigidities over time. On the other hand, inertia characterized by *implied intent* (which we refer to as **implied inertia**) is a direct consequence of core rigidities in the sense that the constraints imposed by the core rigidities imply acting within constraints based on past habits. Exemplifying this logic, Lieberman and Montgomery (1988) identify that incumbent inertia is caused by firm lock-in to specific assets - which we identify as the technical systems dimension of core rigidities (Leonard-Barton, 1992). Therefore, a causal connection has been identified which provides further evidence towards the difference between incumbent inertia and core rigidities. Figure 2 provides a visual representation of the two types of inertia in relation to core rigidities.

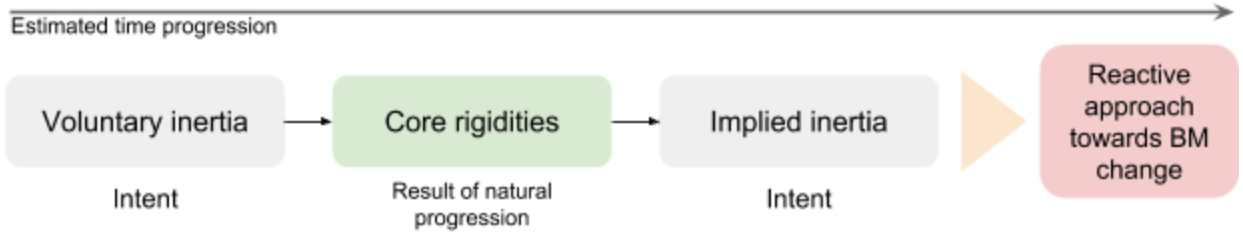

Figure 2: Visual representation of the two types of inertia in relation to core rigidities

We highlight that this explicit differentiation between voluntary inertia and implied inertia has not been directly identified in extant literature, and we use our data and analysis to provide empirical evidence in the context of this differentiation being salient for expanding core rigidities literature. For this purpose, we explore and expand upon the dynamics between core rigidities and incumbent inertia, showing the difference between voluntary and implied inertia, and their opposed causal direction in relation to core rigidities.

Both incumbent inertia and core rigidities have been demonstrated by literature to be conductive towards reactive approaches towards BM change, and it is to be expected that combining these phenomena will lead to the same reactive focus. While demonstrably true, we posit that the different dynamics between these concepts lead to reactive approaches in different ways, and to varied extents. For example, continued voluntary inertia can be seen as a *primary* cause of an increased future reactive approach towards change. Voluntary inertia is initially an efficiency-inducing mechanism, and the extent of its influence on reactive approaches is limited. This is not the case for implied inertia, which is a representation of working within the constraints of core rigidities, and which is directly associated to an extreme association to reactive behavior. This difference is important in the context of related solutions being different depending on company context and the extent of which the reactive approach tendency is present.

2.3 Dynamic capabilities and operational capabilities

Having outlined core concepts related to antecedent factors, we now turn the focus on their counterbalancing elements identified by extant literature. This approach helps towards providing a more comprehensive overview, by analyzing opposing concepts to antecedent factors and how they interact. More particularly, we identify dynamic capabilities as being of particular conceptual importance in terms of their interaction with antecedent factors. Pavlou and Sawy (2011) make a clear distinction between dynamic capabilities (first proposed by Teece et al., 1997) and operational capabilities. Dynamic capabilities are defined as the firm's ability to

reconfigure and change operational capabilities in order to keep them relevant to a changing environment (Collis, 1994), which, in turn, characterize the firm's ability to survive on a day-to-day basis (Winter, 2003), by ensuring effective and efficient day-to-day operations. Dynamic capabilities dictate the strategic direction of operational capabilities. Therefore, we associate dynamic capabilities with exploration, and operational capabilities with exploitation (March, 1991). Consequently, reactive approaches to BM change is a characteristic of a firm's focus on exploitation rather than exploration. We posit that exploration theoretically facilitates a firm's ability to foresee change and identify latent consumer needs, allowing it to adopt a proactive attitude in terms of adjusting business models to future realities. Relating core rigidities (Leonard-Barton, 1992) and incumbent inertia to dynamic capabilities, we posit that operational capabilities (as a subset of core capabilities) , if not voluntarily interfered with, promote the development of incumbent inertia through core rigidity characteristics - in the absence of the above-described dynamic capabilities. Hence, dynamic capabilities are identified as a facilitator for dissolving antecedent factors and preventing their negative implications . The dynamic capabilities construct allowed Pavlou and Sawy (2011) to formulate a dynamic capabilities framework, based on (1) sensing capability, (2) learning capability, (3) integrating capability, and (4) coordinating capability. The sensing capability allows firms to identify, interpret, and act upon (Pavlou and Sawy, 2011) opportunities in the environment, while the learning capability relates to the absorptive capacity of the firm (Cohen and Levinthal, 2000). The integrating and coordinating capabilities are related to the systematic internalization of the absorbed knowledge. The ability of firms to follow these capabilities in chain-format would allow for the development of adaptability, or proper dynamic capabilities in order to face changing market environments. This framework, however, treats dynamic capabilities as the main predictor of competitive advantage in moderately turbulent environments - in the case of highly turbulent environments, the primary predictor of competitive advantage is the improvisational capability (Pavlou and Sawy, 2010). This provides a conceptual clue regarding potential ways for reactive companies to successfully navigate periods of high external environment volatility, namely the development of the improvisational capability.

2.4 Business models

Antecedent factors, for the purposes of this thesis, are primarily linked to their direct causal effect on the firm's approach towards BM change, particularly by promoting a reactive approach as opposed to a proactive one. Having explored the literature related to antecedent factors, we now turn our attention to the BM elements. We start by exploring the BM concept generically, and subsequently narrow the scope of the literature review to cover typologies, BM change, business model innovation [BMI], ways to identify the need for BM change and literature on how to achieve this, and challenges associated with doing so. Considering that the focus of this research is placed on how dynamics between antecedent factors influence BM change, particularly identifying how they lead to reactive approaches, we also review literature related to the explicit differentiation between reactive and proactive BM change.

The BM is an elusive element (Massa and Tucci, 2013), with various conceptualizations of it in academic literature - however, the common thread among these conceptualizations relates to BM being a "system-level concept, centered on activities and focusing on value" (Zott et al., 2011). Nevertheless, academic research on BMs shows signs of scarcity (Schweizer, 2005). Extant literature recognizes that innovative ideas themselves do not unlock economic value by themselves - they require appropriate BM designs in order to do so (Massa and Tucci, 2013; Chesbrough, 2010). Therefore, the BM can be regarded as a vehicle for innovation as it allows the effective commercialization of ideas. The notion of "business model" achieved prominence in literature towards the end of the 1990s (Osterwalder et al., 2005). At its most basic form, the BM is a model of the way in which a firm does business (Taran, 2011). A more developed perspective proposes that the BM captures how companies develop, deliver, and capture value (Floren and Agostini, 2015). It does so by outlining the overall architecture connecting costs, revenues, and profits of the firm delivering the value (Teece, 2010). Chesbrough and Rosenbloom (2002) posit that a BM is created as a focussing tool that mediates between technological development and the realization of economic value for the firm. A BM can be

regarded as a consolidated design for explaining firm performance and competitive advantage, by defining it as the way in which a company builds and uses its resources to offer its customer better value and generate profit in the process of doing so (Afuah and Tucci, 2001).These views are arguably regarded as static views of the BM concept. An alternative use of BM is the transformational approach, which implies using the notion as a tool to address change and innovation in a firm, or in the model itself (Demil and Lecocq, 2010). The same authors posit that the static view is best used in literature as a facilitator for building typologies and create connections between them and performance, while the transformational view focuses on the major managerial question of how to evolve it over time (Demil and Lecocq, 2010) - therefore, both approaches are useful depending on circumstances.

Considering typologies, a BM encompasses 6 different roles (Chesbrough, 2007), namely (1) articulate the value proposition, (2) identify a market segment, (3) define the structure of the value chain, (4) specify the revenue generation mechanisms, (5) describe the position of the firm within the value network, and (6) formulate the competitive strategy. Therefore, the BM provides the backbone support all core elements of the company. A different typological separation is provided by Johnson et al. (2008), which divide the BM concept into four different components (value proposition, profit formula, key resources, and key processes). This approach provides a description of the BM in terms of broad components, allowing for a more generic overview of the functions involved.

2.5 The change perspective on business models

While BMs can be analyzed as a snapshot in time, they are intrinsically evolving (either through intentional managerial action, or through natural evolution). Consequently, we will now analyze extant literature on business model change and related constructs.

BM efficiency is constrained to limited periods of time - hence, firms need to think about sustaining and innovating their business models (Chesbrough, 2007). We posit that sustaining

business model efficiency relates to incremental upgrades, in line with evolution and change, and is different from business model innovation [BMI]. In this article, we use the terms "business model evolution" and "business model change" interchangeably, as a way to differentiate from BMI (which is one particular type of business model change). Incremental and continuous BM changes are identified by Demil and Lecocq (2010) to be more prevalent than radical changes, which are, in turn, associated with BMI. Consequently, we deduce that BMI is employed to a lesser extent when compared to the level of occurrence of incremental BM change. We follow the BMI definition as provided by Bucherer et al. (2012) as a *"process that deliberately changes the core elements of a firm and its business logic"* by adding that these deliberate changes must create innovation within the firm. It is important to distinguish between innovation of firm output and innovation within the BM. In that regard, we acknowledge that companies have many more processes and shared sense on how to innovate technology, than they do on how to innovate business models (Chesbrough, 2010). Therefore, we deduce that firm output innovation is more frequently encountered than innovation within the business model itself. However, combining firm output innovation with BMI creates a dynamic that is arduous to obstruct by competition (Amit and Zott, 2012). BMI itself serves distinct roles in literature, and has been recognized as an important and distinct management research topic (Lambert and Davidson, 2012).

BM change may refer to designing new business models for newly-formed organizations, and also to the reconfiguration of existing business models (Massa and Tucci, 2013). For the purposes of this article, we focus on the latter. Gunzel and Holm (2013) observe three main advantages of BM novelty, namely achieving superior value creation (Morris et al. 2005), changing the economics of an industry (Magretta, 2002), and potentially making competition irrelevant (Kim and Mauborgne, 1997). However, certain advantages may be better fitting to some organizations as opposed to others. Consequently, we need to further explore the triggers for BM change depending on unique context. In that regard, Johnson et al. (2008) propose a three-step process to determine if a firm requires BM change: (1) articulating the characteristics that make the current BM successful; (2) observe external signals that the BM requires change, such as tough new competitors; and (3) decide whether or not reinventing the BM is worth the

resources and effort. We recognize both internal and external factors as triggers for BM change (Demil and Lecocq, 2010). External factors refer to jolts which may disrupt the organization's normal operations in an abrupt way (Demil and Lecocq, 2010). The same authors recognize internal triggers for BM change as top or middle managers' teleological decision process, in addition to consequences of the dynamics within or between core components of the business model. Demil and Lecocq (2010) also differentiate between voluntary BM changes and naturally-emergent variants. Voluntary changes are the result of direct management action, while emergent changes are unintended by the company and may be outside the boundaries of management control (such as major industry disruptions by significant alterations to external factors, including legal framework and available technologies). In relation to antecedent factors, naturally-emergent BM changes are primarily linked to reactive attitudes, and thus are of particular importance to this study. Another approach is proposed by Cavalcante et al. (2011), by arguing that the trigger for BM change may be related to one or more of the following four factors: (1) new commercial opportunities, (2) ineffectiveness of current BM, or anticipated obsolescence, (3) major threat from better equipped competition, and (4) new disruptive entrants. However, Amit and Zott (2010) argue in favor of using BMI as a way to innovate within existing markets, by using existing products, capabilities, and resources. This translates to business innovation through increased efficiency, at limited cost to the firm.

So far, we explored literature defining concepts and outlining the elements that trigger the need for BM change (or, alternatively, BMI) within firms. Now, we explore various theories on how this can be accomplished. BMI can be achieved in a number of ways. Amit and Zott (2012) propose the following typology: (1) adding new activities to the business model, or "content"; (2) linking activities in new ways, or changing the "structure" of the BM; and (3) changing one or multiple parties performing the activities within the BM, which is referred to as "governance". Consequently content, structure, and governance are the three most important design elements that form the business model (Amit and Zott, 2012), and changing the BM would imply changing these elements to a lesser (BM change) or greater extent (BMI). Furthermore, Cavalcante et al. (2011) differentiate between multiple types of BM change (namely business

model creation, extension, revision, and termination), each representing various stages of a business model's life cycle. An alternative typology of BM change is advocated by Floren and Agostini (2015): the authors posit in favor of using two axes, namely activities and structure. A BM change that aims at mostly preserving existing activities and structure is called (1) BM extension, while a change that aims to significantly change existing activities or structure is referred to as (2) BM revision. Operating a significant change to both existing activities and existing structure requires (3) BM transformation (Floren and Agostini, 2015). A more systematic approach to developing business models is proposed by Euchner and Ganguly (2014), by making use of a six-step process that firms need to be aware of: (1) demonstrate value creation, (2) generate BM options by selecting from archetypes and refining the result based on specific needs, (3) identify risks, (4) prioritize risks, (5) reduce risk through experimentation, and (6) organize for incubation by starting small and scaling up. This approach offers a risk-based focus, with the aim of eliminating risk within the process of planning for BM changes, as opposed to being harmed by it after the BM change has been implemented. The experimentation which Euchner and Ganguly (2014) use to reduce risk is also recognized by Chesbrough (2010), who argues in favor of mapping business models and clarify their processes, which should, theoretically, allow them to become a source of experiments by using different combinations of those processes. Referring to the principles of effective experimentation proposed by Thome (2002), Chesbrough (2010) posits that the most important ones in the context of BM experimentation are (1) the cost of conducting the experiment, (2) the time required to obtain feedback from the experiment, and (3) the amount of information learned from it. These three principles provide a framework for effective planning of business experiments, and allows for convincing "sales pitches" to be made to the upper echelons of firm management. In the context of upper echelons, top management should designate a person responsible for BM experimentation in order to properly implement it, collect the generated knowledge, and further deploy it within existing structures and systems of the organization (Chesbrough, 2010). A three-phase business model innovation process proposed by Riordan et al., (2014), based on a temporal view of BMI, involves starting the change process by (1) conducting idea generating actions, or ideation, followed by (2) evaluation of the results through experimentation,

stimulation, modelling, and visualization. The final phase (3) places the focus on prioritization by making use of analytical tools and decision support systems.

Any type of deliberate business model change, especially BMI, can be regarded as a strategizing action. Following this perspective, the firm requires three capabilities that help shape business model change (Achtenhagen et al., 2013), namely (1) an orientation towards experimentation and exploration, (2) a balanced use of resources, and (3) coherence between leadership, culture, and employee commitment. The balanced use of resources points towards a resource-based view of the phenomenon. Lin and Wu (2014) argue that a firm's dynamic capabilities can mediate the valuable, rare, imperfectly-imitable, and non-substitutable (VRIN) resources. This process can be further generalized in relation to BM change, suggesting a reorganization of a firm's VRIN resources as a solution for evolving business models. These methods of achieving BM change and, in some cases, BMI, are connected by a common thread represented by deliberate managerial action. As previously outlined, deliberate managerial action is required in order to limit the negative effects of the antecedent factors analyzed in this study. Consequently, we highlight the importance of this deliberate action for companies to achieve sustained competitive advantage.

Following the review of literature on how to implement BM change, we deem it necessary to also consider the challenges of conducting this activity. An important particularity is pointed out by Massa and Tucci (2013): reconfiguration of BMs assumes the existence of a current BM, and thus it faces the challenges idiosyncratic to existing organizations. Consequently, we can generalize the challenges of BM change and innovation as similar to those faced by existing organizations seeking any form of change. In that regard, Massa and Tucci (2013) outline standout challenges as (1) organizational inertia, (2) management processes, (3) modes of organizational learning, (4) modes of change, and (5) path-dependent constraints in general. These factors outline theoretical linkages to potential antecedent factors core to this thesis. This serves as theoretical evidence of the relation between the presence of antecedent factors to reactive BM change and general challenges associated with conducting this change in the first

place. Organizational inertia is observed by McDermott and O'Connor (2002), who note that the obstacles that firms face when conducting BM changes are associated with path dependence and inertia. The authors suggest that because of this, we can consider BM revision as a type of radical or disruptive innovation, suggesting very difficult challenges that need to be overcome. Path dependencies are created by past strategic orientations of the firm, and this will influence the propensity of the firm to adapt its business model (Saebi et al., 2017), which can be interpreted as an antecedent factor. Following a similar train of thought, Amit and Zott (2001) point out that novelty, lock-in complementarities, and efficiency as being essential elements of BMI. This makes BMI conflict with legacy configurations and structures of the firm. In addition, if the current BM of a firm is (or was) successful, it will strongly influence the information "routed into or filtered out of the corporate decision process" (Chesbrough, 2006). Consequently, *confusion* and *obstruction* represent significant barriers to any type of BMI. Having outlined these challenges to BM change in general, we observe a strong conceptual connection between these challenges and the reasoning behind the formation of antecedent factors in the first place. Considering the focus of this thesis being placed on antecedent factors to reactive BM change, we find it imperative to explore what academic knowledge already exists and clearly differentiate between proactive and reactive BM change. Extant literature on the differences is very scarce, despite tangential elements to more traditional research areas such as exploration/exploitation (March, 1991), BMI, core capabilities/rigidities (Leonard-Barton, 1991), dynamic capabilities/operational capabilities (Teece, 1997; Pavlou and Sawy, 2011; Collis, 1994; Winter, 2003), and even to more generic research on business models.

Miles and Snow (1978) differentiate between four types of companies, based on different types of strategy innovation. (1) Prospector companies are the most innovative, emphasizing new product development, new technologies, and new markets, while conducting continuous experimentation; (2) defender companies, on the other hand, do not venture out of their domains of activity too much and prefer the conditions of their stable market niches, while limiting product development efforts to incremental improvements to existing offerings; (3) analyzer companies combine the prospectors' tendency towards innovation with the significant

capabilities to serve existing markets of defender companies; (4) reactor companies do not have a consistent strategy, and while they do perceive market changes, they do not respond effectively to them. Based on this typology, we argue that prospector companies are the most proactive, with analyzer companies being moderately proactive. On the other hand, reactor companies are the extreme end of reactive, while defender companies are moderately reactive (figure 3).

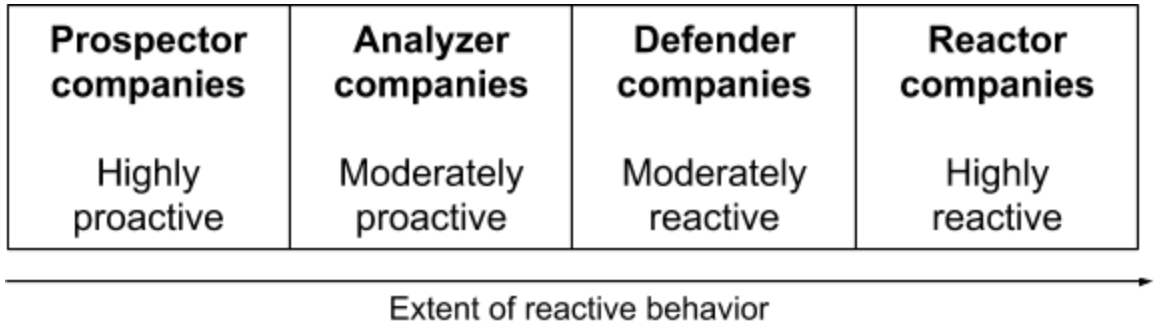

Figure 3: Miles and Snow's (1978) four types of company strategy

Taran and Boer 2015) empirically demonstrate the existence of four types of BM change strategies: (1) open/reactive strategies, (2) closed/proactive, (3) open/reactive, and (4) closed/reactive. According to Taran and Boer (2015), proactive strategies are the ones mostly aligned with an increased possibility of a firm's success. This provides an empirically-backed disadvantage for reactive companies, namely an association with a lowered chance of success. In our study, we seek to bring light to the area of antecedent factors and explore the dynamics through which they ultimately lead to reactive approaches.

Chapter 3: Methodology

3.1 Research approach

The focus of this case study is on how social actors understand and interpret the social world around them, a philosophy typically referred to as *phenomenology* (Bryman and Bell, 2011). Furthermore, as we seek an explorative empirical research for the purposes of it generating theory, we follow an *inductive approach* (Bryman and Bell, 2011) with specific traits associated with *grounded theory*, specifically the close connection between data collection, analysis, and resulting theory (Bryman and Bell, 2011), connection primarily concerning our ample use of iteration.

In terms of epistemological considerations, we follow an *interpretivist approach* (Bryman and Bell, 2011). Subjective meaning of social action lays at the core of our empirical research, allowing us to interpret human action in the context a non-abstract, socially constructed environment.

Our ontological orientation is heavily leaned towards *constructivism* (Bryman and Bell, 2011), as our researched social phenomena is characterized by a continuous dynamic leading to consistent change on a time scale.

3.2 Research strategy and design

In line with the above-mentioned intepretivism and constructivism, our research strategy focuses on qualitative research. Our objective is to add to extant literature by emphasizing words as opposed to data quantification, and our collected data embodies a view of social reality as a continuously changing emergent characteristic of creations of individuals. Conversely, our qualitative approach to data collection is better suited to answering a limited number

priorly-formulated research questions (Bryman and Bell, 2011). A qualitative approach is also considered the sensible choice in the context of exploring the views of a individuals within a social group and their interpretation of it, according to Bryman and Bell (2011).

Our observations and findings will lead to to theory, by seeking answers to our research questions - therefore, we employ an *inductive* approach (Bryman and Bell, 2011). Furthermore, we acknowledge the benefits of *iteration*, which allows us to continuously cycle between primary data and secondary research (Bryman and Bell, 2011). Iteration is therefore used to constantly adjust our research focus in order to achieve the best results to our empirical endeavour.

3.2.1 Single case study design

Emphasizing the perspective put forward by to Stake (1995), Bryman and Bell (2011) show that case study research is primarily aimed at analyzing complexities and the particular nature of a specific case. Therefore, we identify our research with this view. Our focus is placed on detailed and intensive analysis of a single organization, thus employing a single case study design (Bryman and Bell, 2011). Eisenhardt (1989) defines it as research strategy which centers around the existing dynamics within a single setting. Following this approach, the single case study will assist us in identifying the specific dynamics of the researched phenomena within the context of our case company. Additionally, the single case study will facilitate gathering in depth knowledge of the areas of focus that are being practised in the case company (Bryman and Bell, 2011).

The present single case study incorporates a variety of data sources, including internal archives, interviews, reports, and informal observations. A case study can be used to achieve different aims such as to further develop a given theory, test theories or generate theories (Eisenhardt, 1989). The aim of our case study is to evaluate existing theories within a specific, initially untested, context and to generate new theory based on observations in the case company. In particular, we will evaluate the dynamics between the concepts of core rigidities and incumbent

inertia, and the relation between these dynamics and the firm's approach towards BM change (particularly how these dynamics lead to a reactive approach towards BM change). The case company is deemed suitable for this particular research focus due to the reactive approach being directly identified in virtually all interviews. Consequently, the case company offers an ideal setting for the facilitation of providing answers to the research questions of this study. Additionally, the findings from this case study will also present and justify managerial recommendations and implications generalizable beyond the constraints of the case company.

3.2.2 Research process

We began the identification of the general research area by meeting employees by the means of unstructured, informal interviews. By drawing parallels to extant literature and theory, as well as general industry developments, we narrowed the focus of this study. The approach is recommended by Bryman and Bell (2011), who posit that the general research area can be derived from several sources such as personal interest and experience, research literature, theory, or recent developments.

In addition to the initial unstructured interviews, we also made use of internal documents, strategic outline and corporate focus statements, and corporate presentations. We also analyzed business models employed in the company for various products, and in various international markets. The collected information evidenced common threads, which were pivotal to the process of identifying the narrow focus of this research. Making use of iteration, we developed the initial research area into a more specific niche, making adjustments based on new context developments and discoveries. In line with Bryman and Bell (2011), narrowing down the research area eventually uncovered the research question. Indeed, finding a research area is rarely linear (Bryman and Bell, 2011). Consequently, it was required that the area and focus be adjusted in light of new observations. Following advice put forward by Bryman and Bell (2011), discussions were initiated with a core group in order to conduct a pre-validation of the research area, ultimately resulting in a definitive focus and explicit research questions. These serve as a central point to our overall process and direct subsequent research (Bryman and Bell, 2011).

Furthermore, we used a review of extant literature in order to refine the selected research question in order to evidence the credibility and theoretical significance of the research focus (Bryman and Bell, 2011). Additionally, the literature review provides clarity on what is already known and what contributions new research might make to literature (Bryman and Bell, 2011).

Having clearly established the research area and specific research question, we made use of semi-structured interviews in order to answer them based on empirical evidence.

3.3 Data collection method

3.3.1 Case company

Detailed and intensive analysis of our identified phenomena will be conducted within one representative case company, using a single case study design. More precisely, we identified the clear presence of the phenomena within the case company, allowing for an in-depth analysis of it (Bryman and Bell, 2011). Therefore, we posit that the social construct of our research context is a typical one for the researched concepts, allowing for external generalizability.

3.3.2 Unstructured interviews

We started the data collection process by the means of unstructured, informal interviews, which were used to gain fundamental information about the case company and its processes. Using iteration, we began with a broad focus and narrowed down in subsequent interviews. Similar in character to a conversation (Bryman & Bell, 2011), these interviews were helpful in identifying a number of potential research areas and in getting a high level view of the firm. This allowed the understanding of the world view of interviewees and their social setting, which is best suited for this type of interviewing (Bryman and Bell, 2011). Patterns and common threads emerged as a direct result of unstructured interviewing, facilitating the identification of narrower areas to be subsequently investigated by the means of semi-structured interviews. Figure 4 presents the

number of unstructured interviews conducted and the wide perspective that was undertaken in order to cover a comprehensive understanding of the overall circumstances of the case company.

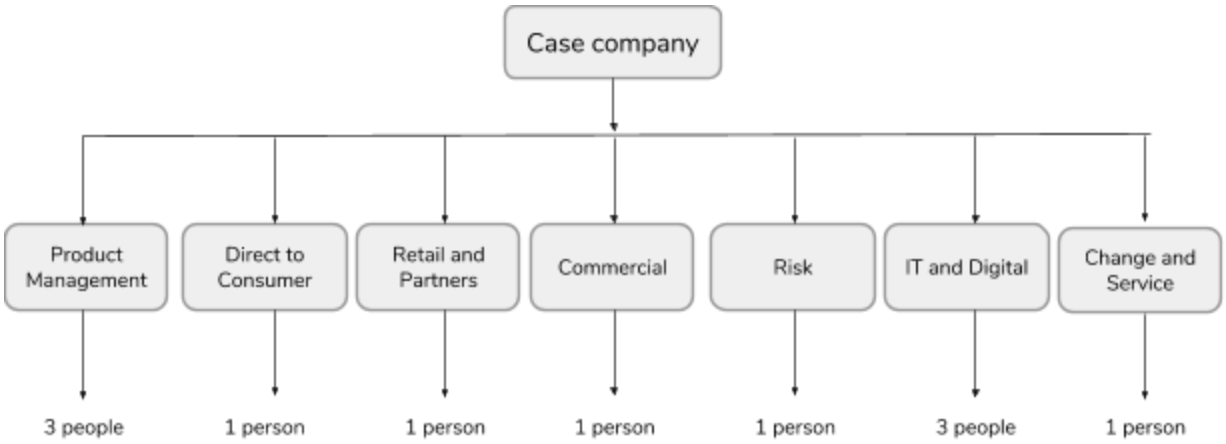

Figure 4: Division of the activity system of the case company and number of unstructured interviews in each
Source: Stakeholder list provided by the case company

3.3.3 Semi-structured interviews

Guiding the conversation around a specific set of topics, while simultaneously allowing for general observations to be made which may be tangential to the pre-planned structure, semi-structured interviews allowed for the collection of exploratory data while facilitating keeping the interviews within scope. Unlike in other qualitative data collection methods, an interview guide was followed in order to facilitate a degree of structure (Bryman and Bell, 2011). However, as we aimed to frame and understand issues and events (Bryman and Bell, 2011), the focus was not placed on strictly following the interview guide. This allowed interviewees to pick and emphasize the topics of their particular interest, allowing for a rich variety of data with depth. The primary difference between the unstructured set of interviews and the semi-structured set is given by scope. It is easier to lose track of an unstructured interview (Bryman and Bell, 2011), while the semi-structured interview facilitates the discussion of all predetermined topics of interest.

3.3.4 Interviewee selection

3.3.4.1 Approach

We made use of purposive sampling in the interviewee selection process. Purposive sampling is used to sample interviewees in a strategic way in order to ensure a variety representation of the whole resulting sample (Bryman and Bell, 2011). It is also to make sure that the samples are relevant to the research questions being asked (Bryman & Bell, 2011). It is a non-probability sampling approach where samples are chosen with a particular goal in mind (Bryman & Bell, 2015).

Purposive sampling ensures a fair variety in the resulting data and also that the interviewees have different characteristics and roles (Bryman & Bell, 2011). The limitation of this approach is represented by generalizability concerns (Bryman & Bell, 2011). We initiated our interviewee selection in the case company based on relevance towards understanding the overall corporate business model approach and the factors which directly affected its change. This served as the main criteria of the employed purposive sampling, allowing for effective inclusion and exclusion of potential interviewees (Bryman & Bell, 2011).

Purposive sampling facilitated a richer understanding of the area of interest and helped capture specific data that was not found in the unstructured interviews. In addition, it provided selected employees of the case company with a channel to discuss current processes and challenges, which they may have been otherwise reluctant to disclose to direct management. This provided an intriguing opportunity to gain an in-depth understanding of the circumstances surrounding the case company, and allow for analysis on the generalizability of data.

3.3.4.2 Criteria for selecting interviewees

The criteria for interviewee selection is focused on identifying employees with knowledge related to all aspects covered by the research question, in order to facilitate uncovering relevant

aspects required for answering it based on empirical observation. Therefore, we interviewed the individuals that possess knowledge in terms of the current business model of the company, which practically entails senior management employees which have a high-level overview of the way in which the company operates. Moreover, considering that the research question concerns incumbent inertia and core rigidities which have been shown to occur over longer periods of time, we aimed at selecting employees which have been under employment with the case company for more than 2 years since this would allow them to have a better understanding of how the firm operates. However, this was not a hard criteria since certain interviewees who held positions in very relevant areas have been under employment for less time, interviewees for which this criteria was waived. In order to ensure the collection of data covering a variety of areas within the company, we sought interviewees from different business departments. Considering the international presence of the firm, we ensured that data would be collected from employees based in various international markets in order to ensure company-wide data validity. The chosen sample of interviewees contains seven individuals matching the above criteria, both men and women, which have been interviewed following a clearly defined and conceptually justified interview guide. Last, but not least, an important selection criteria was the requirement that the selected employees to be interviewed needed to have various characteristics and roles, in order to ensure a variety of opinions based on different circumstances within the firm (for these reasons, we purposely opted to not exclude consultants working exclusively on projects for the case company in the sampling in order to capture data from as many perspectives as possible). The tactically-chosen interviewees selected through purposive sampling are outlined in the table below (figure 5).

Participant #	Function	Under employment with case company since	Worked directly on BM change activities	Country of operation
Interviewee 1	Leadership Team, Retail business	2006	Yes: developing the business models, together with finance and controlling	D
Interviewee 2	Leadership Team, Direct to consumer area	2015	Yes: looking ahead at how markets are developing and how to respond to those market changes.	B
Interviewee 3	Leadership Team, Change	2017	Yes: change in IT business	C
Interviewee 4	Leadership Team, Customer and digital	2015	Yes: IT and digital	C
Interviewee 5	Leadership Team, Strategic management	2013	Yes: Strategy-focused position	B
Interviewee 6	Leadership Team, Product management	2016	Yes: Product Management	C
Interviewee 7	Leadership Team, Commercial	2012	Yes: commercial / CRM	D

Figure 5: Summary of interviewees and their background

3.3.5 Interview guide

As Bryman and Bell (2011) advise, we considered what we need to know in order to answer the research questions prior to the creation of the interview guide. Progressively, it started to take a structured form revolving around the research questions (Bryman & Bell, 2011). We emphasized the logical flow through topics - however, we recognize that the order of questions might have to be altered during interview sessions based on specific interview circumstances (Bryman & Bell, 2011). Additionally, we ensured the relevancy and explicitness of language used based on the selected interviewees, and considered the interview questions specificity in order to avoid going to depths beyond the scope of the research questions (Bryman and Bell, 2011).

The aim of the interview guide is to set a direction for the semi-structured interview. It allowed both the interviewer and the interviewee the flexibility to steer the conversation, and at the same time helped the interviewer follow up on unexpected answers during the interview (Bryman & Bell, 2011).

The questions within the interview guide were formulated using the semi-linear, iterative method proposed by Bryman and Bell (2011), as presented visually in figure 6.

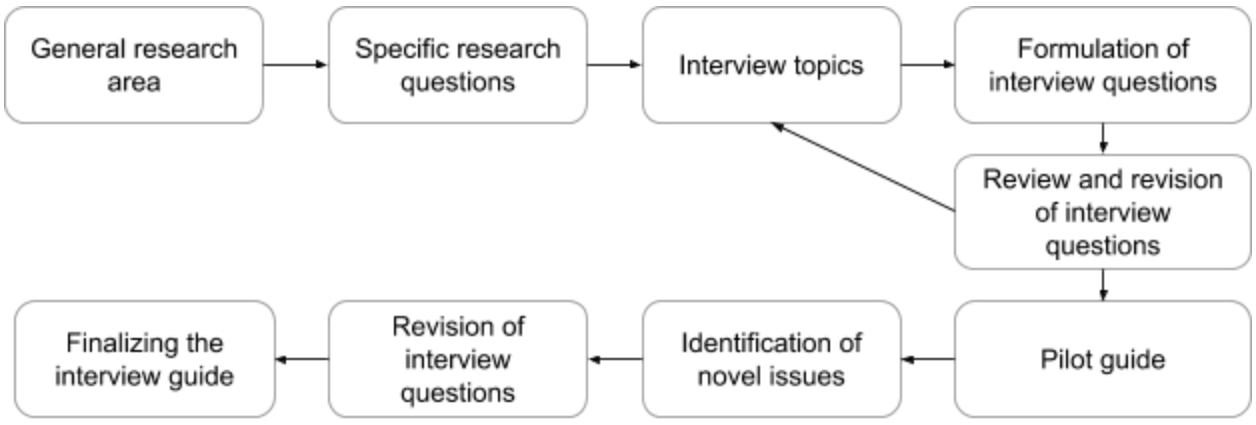

Figure 6: The process of formulating the interview guide questions

The list of nine questions proposed by Kvale (1996) was considered in the development of the interview guide, in order to ensure a thorough collection of data for further analysis. The pilot interview guide was tested in a trial interview in order to ensure effectiveness and foresee any potential issues that might arise during the actual interviews, and allow for an iterative improvement prior to implementation.

The questions in the interview guide are formulated by acknowledging the specific language used within the case company (Bryman & Bell, 2011). This is done to avoid any misunderstandings and make sure the dialog is comprehensible (Bryman & Bell, 2011). We also ensured that the formulation and order of questions is such that it helps in answering the research question (Bryman & Bell, 2011). Even though an order when it comes to included questions is maintained, we acknowledge that the order of questions may change during actual interview depending upon the interviewees' way of providing answers (Bryman & Bell, 2011). Leading questions have been avoided in the interview guide in order to have unbiased data (Bryman & Bell, 2011).

The interview guide is divided into five sections, as follows:

Section 1 - Introduction

a. **Conventions:** This section explains how the interview will be conducted, how the data collected from this interview will be used and introduces the topic of confidentiality and anonymization of the data collected during the interview (Bryman & Bell, 2011). Additionally, researchers disclose and explain the use of audio recording, and ask for explicit consent from the interviewees.
b. **Facesheet data:** The purpose of this first part is to capture the facesheet information (Bryman & Bell, 2011). This is required in order to provide context to the conversation by outlining the individual participant background which may help frame the

perspectives put forward during the discussion. For the purposes of this thesis, we propose the following:

1.1 Can you please confirm your position in the company and the business area in which you operate?

1.2 How many years of experience do you have in the company?

1.3 How many years of experience do you have in the industry?

1.4 What are your main activities in the company?

1.5 *[if not brought up in the answer to question 1.4]* Do these activities include tasks related to business model change defined as the main activities of the company that develop, deliver, and capture value?

- *[if participant also has experience from other companies]* What about in your previous positions with other companies?

Section 2 - Topic: Business model

The first part of our discussion topic is about how the business model of the case company is being described by the interviewee. Considering our research question, it is imperative to retrieve information about the firm's BM and BM change approach.

We follow the BM definition as proposed by Zott et al. (2011), describing the concept as a system-level element, centered on activities and focusing on value. We particularly focus on analyzing the way in which the firm develops, delivers, and captures this value (Floren and Agostini, 2015). Based on this perspective, we formulated the following interview question:

2.1 What are the main activities of the company that develop, deliver, and capture value? *[explain that this is what we identify as "business model" for reference in future questions]* In relation to this, what would you say is the developed, delivered, and captured value proposition of the company?

Chesbrough (2007) posits that BM efficiency is limited to specific periods of time, hence there is a need for continuous change and innovation within business models. Demil and Lecocq (2010) also make a salient differentiation between voluntary BM changes and naturally-emergent variants. Last, but not least, we recognize that BM change is the result of specific triggers, identified by Cavalcante et al. (2011) as (1) new commercial opportunities, (2) ineffectiveness of current BM, or anticipated obsolescence, (3) major threat from better equipped competition, and/or (4) new disruptive entrants. Once triggered, the BM change itself can take multiple forms, identified by Cavalcante et al. (2011) as (1) BM creation, (2) BM extension, (3) BM revision, and (4) BM termination. In order to gain an understanding of prior attempts at BM change and what triggered these changes within the case company, we ask:

2.2 Can you give any specific examples of prior attempts or initiatives in the company to change the way in which it develops, delivers, and captures value (in other words, its business model)? *[after initially allowing for open reaction to the question, follow up with:]* Please give examples based on each of the following, if applicable:

- Business model creation;
- Business model extension;
- Business model revision;
- Business model termination.

2.3 What triggered these business model changes? *[after initially allowing for open reaction to the question, follow up with:]* Do you see any of the following as applicable in the context of business model change triggers, and provide some examples for each?

- New commercial opportunities;

- Ineffectiveness of current business model, or anticipated obsolescence;
- Major threat from better equipped competition;
- New disruptive entrants.

Based on the answer provided to questions 2.2 and 2.3, we need to distinguish between reactive BM change approaches and proactive ones. This separation is salient for the purposes of answering our research question. Hence, we ask:

2.4 Do you see the changes to the business model as reactions to external factors (such as technology, legislation, or trends), or as proactive attempts to get ahead of the competition? *[after initially allowing for open reaction to the question, follow up with:]* Can you please identify concrete business model change attempts in the company which were reactive? What about proactive attempts?

Section 3 - Topic: Antecedent factors

For the purposes of this thesis, we define incumbent inertia as a rational firm behaviour characterized by an increased use of knowledge and skills which increased profits in the past (Lieberman and Montgomery, 1988). Lieberman and Montgomery (1988) argue that incumbent inertia is not about impossibility, but about slowness and inefficiency. Core rigidities are defined as the inhibiting characteristic of core capabilities, which lead to the dismissal of change attempts which are not aligned with the core knowledge set of the firm (Leonard-Barton, 1992). Leonard-Barton (1992) describes four dimensions of the core capabilities and core rigidities dilemma. Analyzing core rigidities from the (1) skills and knowledge dimension, a firm's over-emphasis on one discipline in which it excels naturally makes the company less attractive for top talent focused on other disciplines (Leonard-Barton, 1992). In terms of a (2) technical systems dimensions, technical systems can become rigid when over-emphasis on certain skills and processes captured in them can become outdated. Judging from a (3) management systems perspective, highly skilled employees tend to show reluctance to apply their ability to projects

which run the risk of being undervalued. The (4) values dimension describes core rigidities in terms of the potential of a lack of recognition for employees involved with unaligned projects, and the issues caused by non-legacy product development in terms of lack of associated prestige. In short, non-dominant areas are held back by a *self-reinforcing cycle of norms* (Leonard-Barton, 1992).

The relationship between incumbent inertia and core rigidities is a symbiotic one: incumbent inertia is about what is currently happening in a firm (based on prior successes through voluntary inertia, or due to inability to act otherwise through implied inertia), and core rigidities represent the natural evolution from voluntary inertia and the root of implied inertia. We explore incumbent inertia and core rigidities based on this outlined theory and link it to business model change attempts identified in section 2.

Open question about antecedent factors:
3.1 Why do you believe that the business model change attempts identified so far were … *[**reactive** or **proactive** based on prior examples; expected: reactive]*?

Specific questions in relation to identifying incumbent inertia:
3.2 Do you recognize the firm as characterized by an increased use of knowledge and skills which increased profits in the past - in other words, doing things in the present simply because they worked in the past? *[after initially allowing for open reaction to the question, follow up with:]* Can you please provide some concrete examples?

3.3 Do you believe the case company is doing some things slower and less efficient than it could? [based on answer, follow up with] Why do you believe that is?

Specific questions in relation to identifying core rigidities:
A - Skills and knowledge dimension:

3.4 Do you believe that the company's over-emphasis on *[previously identified incumbent inertia examples]* may lead to people skilled in other functions to leave the company, or not seek employment here?

B - Technical systems dimension

3.5 Do you believe that the company is locked-in by its existing deployments and fixed assets, for example legacy IT systems?

C - Management systems dimension

3.6 Do you believe, or have observed, people be reluctant to use their skills for projects which are not aligned with the activities on which the company focuses?

D - Values dimension

3.7 Do you believe that employees working with these unaligned projects get recognition on parity with employees involved with projects which are aligned with the company's "way of doing things" focus?

Question connecting BM change attempts, as identified in section 2, to incumbent inertia:

3.8 Relating to the business model change attempts identified earlier *[remind the participant about the concrete examples he/she provided]*, do you believe that the *[**reactive** or **proactive**, expected: reactive]* approach to business model change was influenced by the actions taken by the company simply because they worked in the past, so they were repeated?

Question connecting BM change attempts, as identified in section 2, to core rigidities:

3.9 Also in line with the business model change examples, would you associate the negative consequences identified in the prior questions **[remind the participant about answers to questions 3.4, 3.5, 3.6, 3.7]** as playing a role for the [**reactive** or **proactive**, expected: reactive] approach to business model change?

Leonard-Barton (1992) proposes that managers, when faced with the paradox of core capabilities and core rigidities, handle it in one of four ways, namely (1) abandonment (abandoning the project), (2) recidivism (returning to core capabilities for solutions), (3) reorientation (turning the orientation towards core capabilities), or (4) isolation (isolating the project from the core capabilities). In order to explore how this is tackled within the case company, we propose question 3.10:

3.10 Hypothetically, if you were faced with leading an internal project which is not aligned with how the company usually does business, how would you tackle this challenge? *[after initially allowing for open reaction to the question, follow up with:]* What is your opinion on the applicability of:

- Abandoning the project completely
- Returning the the company's core capabilities for solutions
- Adjusting the project so that it better matches the core capabilities of the company
- Isolating the project from the rest of the company

Section 4 - Summing up

This section provides an opening for the interviewers to ask for opportunities regarding a follow-up interview, in case of one or more of the following:

- The discussion uncovered new potential areas of interest for the purposes of this study;
- The discussion did not fully cover all of the required topics due to running out of scope;
- The discussion had to be cut short because of unforeseen circumstances;
- Not all interview topics could be sufficiently explored.

The interviewers summarize the discussion so far, and thank the interviewee for their participation in this study. Last, but not least, participants are given an opportunity to ask any questions or voice any concerns that they might have regarding this research.

Please refer to appendix 2 for the interview guide as used for interviews.

3.3.6 Interview preparations

Bryman and Bell (2011) discuss about the importance of familiarity with the setting in which the interviews will take place. In that regard, all interviews took place in a conference room inside the office building of the case company (interviews with internationally-located participants were conducted using teleconference equipment at our disposal in the same conference room where face-to-face interviews took place). Apart from familiarity, the conference room allows for a quiet and private setting, ensuring peace of mind for the interviewees in terms of not being overheard by their colleagues. In terms of technical considerations, following the advice of Bryman and Bell (2011), the interviewers will be acquainted with the recording equipment and other technical items prior to the interviews, and also ensure their proper working condition by testing all equipment in advance. We also employed redundancy equipment available as backup systems in case of any potential technical failure encountered during the interview process.

Prior to each interview, a basic interview guide was submitted to each interviewee (Bryman & Bell, 2011). This basic interview guide covered only the topics and not specific questions, and helped establish a frame for the interviewees in terms of potential prior preparation. Additionally, it reinforced peace of mind by ensuring a level of predictability of the interview. The basic interview guide is available in appendix 3.

Preparations for the interviews included the clear definition of roles that the two interviewers had. More explicitly, one interviewer had a leading role in establishing rapport and asking questions in addition to ensuring that the interview would not go out of scope. The second interviewer was assigned a passive role and intervened at times where there was a need for clarification. In addition, the second interviewer ensured the proper technical conditions for recording, and took notes for subsequent follow-up with the interviewee.

3.3.7 Ethical considerations

In order to maintain a high level of integrity and ensure the academic quality of this study, relevant ethical aspects have been thoroughly considered. The four major areas of ethical consideration, as identified by Bryman & Bell (2011), were examined:

- **Prevent harm to participants:** We ensured that no direct or indirect harm such as physical harm, harm to participants' development or self esteem, stress or harm to career prospect, is done to the interviewees (Bryman & Bell, 2011). This has been achieved through appropriate prior planning, testing the interview guide, and through confidentiality agreements.
- **Lack of informed consent:** Participants have been provided with enough information about the research in order for them to make a decision on whether or not to participate in it, in line with Bryman & Bell (2011).
- **Invasion of privacy:** At any given point in this study we ensured that the questions asked to interviewees were relevant to area of research and did not interfere with participants' privacy. In addition, before each interview, interviewers clearly stated that the participants can choose not to respond to specific questions and can opt to exit the interview if they so consider, with no consequences to them (Bryman & Bell, 2011).
- **Deception:** There is a balance required between what the participant should know and how this information affects their response. In this study, participants are given enough information about what exactly this research attempts to accomplish (Bryman & Bell, 2011).

Furthermore, additional concerns regarding anonymity, transparency, confidentiality, trust and copyright were thoroughly considered (Bryman & Bell, 2011).

3.4 Data analysis

Grounded theory (Bryman and Bell, 2011; Gioia et al., 2012) serves as a basis for data analysis for the purposes of this study, in the context of theory being derived from collected data. The analysis and outcomes are closely tied (Bryman and Bell, 2011), especially in the context of dynamics between antecedent factors leading to reactive business model change approaches. In addition, we made ample use of iteration, which is a salient characteristic of grounded theory. Data collection and analysis are referred to in a back-and-forth manner (Bryman and Bell, 2011). Concepts, categories, and theories serving as outcome of this study were developed using the four major tools of grounded theory: theoretical sampling, coding, theoretical saturation, and constant comparison (Bryman and Bell, 2011). Considering the use of initial unstructured interviews in order to evaluate rough definition of the research question, as well as provide hypothetical preliminary explanations, we acknowledge the applicability, to a certain extent, of analytic induction.

Data analysis is based on transcripts resulted from audio recordings of the semi-structured interviews. The transcripts facilitate the development of coding mechanisms, and identification of concepts and themes (Gioia et al., 2012). In line with Gioia et al. (2012), data analysis was initiated by condensing common threads and explicitly evidencing the dynamic relationship between these identified.

3.5 Validity and reliability

We acknowledge the fact that we employed a single case study design, and therefore deeply consider the external validity and generalizability/reliability of our findings. In the context of analyzing the particularities of a specific phenomenon in a specific environment, we agree with Lee et al. (2007), when they state that particularization rather than generalization constitutes the main strength of such research. However, since the particularities of the phenomenon in the social construct in which we analyze it have a generic tendency and are not based on factors only

present within the case company, compared with the rather standard circumstances of it, we maintain a position of generalizability of findings. Based on the five types of cases identified by Yin (2003) and emphasized by Bryman and Bell (2011), we argue that we are exploring a representative/typical case of the phenomenon on which our research is focused. Consequently, we insist on the generalizability of our findings in the context of other organizations facing the same phenomenon, under similar external circumstances.

Chapter 4: Findings

This section provides an overview of the collected data presented in a structured format. It outlines evidence of incumbent inertia and core rigidities, as well as context and explanations as for how they interrelate in order to emphasize their dynamics, and how they impact the reactive approach to BM change. In terms of the format of the presented data, we achieve transparency and clarity by employing the structure proposed by Gioia et al. (2012) based on identifying first order concepts, which are subsequently collapsed under second order themes, which in turn are presented under aggregated dimensions. Moreover, each quotation is attributed to specific interviewees (anonymized through the use of numbers) in order to further increase transparency.

15 second order themes are presented based on 4 aggregated dimensions. These dimensions are (1) incumbent inertia, (2) core rigidities, (3) internal culture, and (4) change. Being related to the research question, these dimensions facilitate a discussion regarding incumbent inertia and core rigidities, their dynamics and subsequent consequences. Additionally, the 15 second order themes are in themselves based on 57 first order concepts with roots in the information collected through semi-structured interviews.

4.1 Incumbent inertia

Within the incumbent inertia aggregated dimension (figure 7), we introduce the themes of centralization and formalization, as well as explore collected data on institutionalized capabilities. We provide examples of implied inertia within the 2nd order theme presenting the existing constraints within which employees work. Last, but not least, we cover time-related inefficiencies.

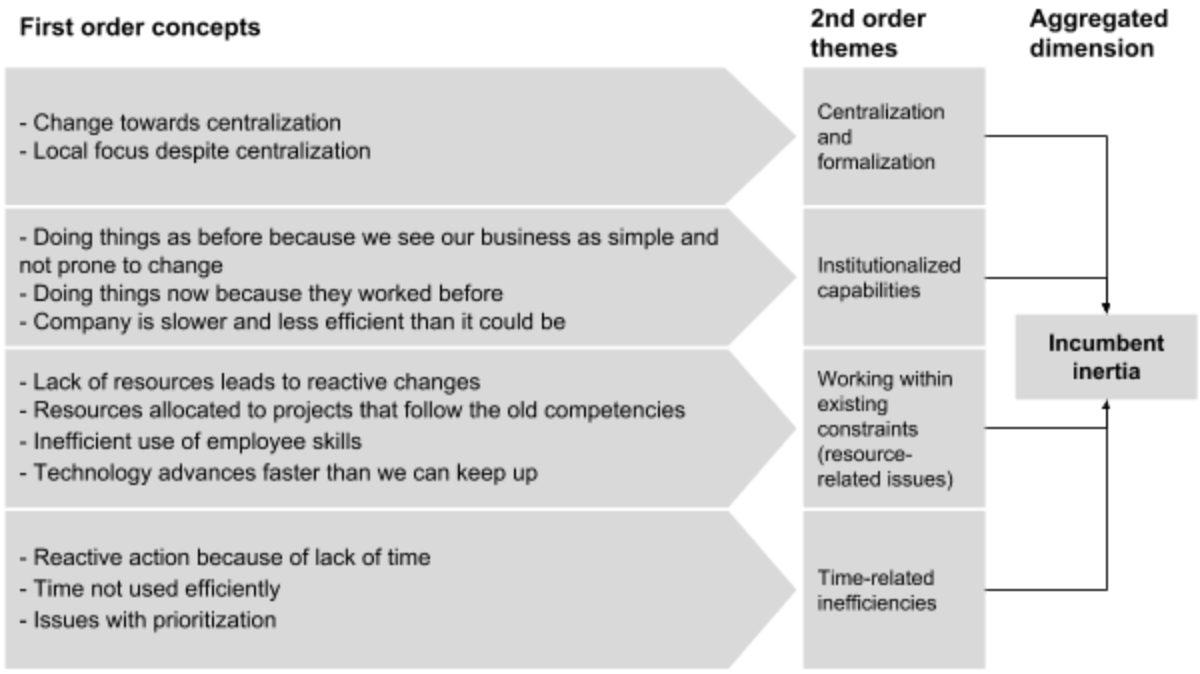

Figure 7: Collected data structure (incumbent inertia)

Centralization and formalization: There is an increased level of formalization, primarily manifested through structural centralization of the case company which did not occur smoothly (*"if you go back in time, the bank was nine separate country franchises, all with different systems, different processes, different customers, different product types and I think in the act of trying to put those companies together the level of complexity was significantly underestimated"* - interviewee 2), resulting in loss of capability (*"we've lost a lot of the competency and capability from within the countries, that could manage those systems, but we haven't, we haven't replaced it centrally with equivalent competency and capability"* - interviewee 2). This

ineffectiveness of this process so far has been identified by one interviewee who argued that local focus is still important, as opposed to the formal centralized approach (*"weakness at [redacted:case company] at the moment.. that we are still, due to the formal local organization, we're still not in the mode or in the mood to... to design new business cases or business models which work for all countries in the same way.* - interviewee 1).

"It's four years ago now, implementing a one operating model so, you know [redacted:case company] and its markets have been separate companies, separate legal entities. So it was all merged into one, having [redacted:case company] in [redacted:country] and then having branches in all the other markets [...] which has actually caused a lot of confusion, which is still there today." - interviewee 7

Institutionalized capabilities: There is an internal perception that the core business environment of the case company will not change, and hence there is no need for changing BMs that worked in the past (*"the consumer finance market will not change fundamentally within the next five years or so, and it didn't change fundamentally in the last five years"* - interviewee 1). However, based on collected data, this does not appear realistically be the case.

"We're very much stuck in a world of fairly static, generic, scoring models when our competitors and peers are moving on to [...] using automated learning, social data or many areas , many fields where we have virtually zero expertise and competence and we we still lack any credible programs to develop those competencies." - interviewee 5

This inertia-based approach has been directly linked to the reactive approach towards BM change (*"We don't try new stuff, we only try the stuff that has worked previously, then it will always be reactive when new competitors are gaining into us."* - interviewee 4). The presence of

incumbent inertia has a direct negative effect on business efficiency, this being recognized by our interviewees (*"we are certainly less efficient and slower than other organizations. I think we need to be quicker and so I hope that we can be, but I think we need to make some changes for that to happen"* - interviewee 5).

Working within existing constraints (resource-related issues): Similar to time-related issues, data was collected that emphasizes issues with other types of resources directly leading to reactive approaches to change (*"We can't afford to have resources devoted to things that fail so we wait until and see what is going to be a really solid business case before we invest"* - interviewee 5). This information provides an important conceptual connection between reactive approaches and resource constraints, particularly identified as implied inertia. Allocation of resources has been directly linked to projects aligned with the status quo (*"there's a strict process and you're not able to do something which is important for the company which is not in line with the usual behavior, how to do things because there are some formalities you have to follow, because otherwise you will not get the resources of budget or whatever to realise [it]"* - interviewee 1). Employee skills are not efficiently used either (*"the company does things slower and less efficient than it could, despite [...] lots of very committed and highly efficient banking people here."* - interviewee 3), which leads to technology advancing faster than the case company can keep up with (*"technology is moving incredibly quickly and our competitors seem able to make greater tech advances at a greater speed than we're able to [achieve]"* - interviewee 2).

Time-related inefficiencies: One potential reason explaining the reactive approach has been identified as internal lack of time to develop projects, while particularly linking this to the company's reactive tendencies (*"we don't have enough time to follow… as soon as you picked up the latest new thing and delivered it [...] those leaders in an industry have moved on to something else"* - interviewee 5). Time constraints have been widely mentioned in the interviews (*"for instance now with the EU legislation around GDPR and PSD2, a lot of work [is] being done just to be able to do what needs to be done. We're reacting to make sure that we are*

compliant, but we're not looking [...] what should our position in the market be now. [...] We just don't have the energy to channel on that." - interviewee 3).

> *"You don't have time, [it takes] so much time to be proactive because proactive means that you think in general about the market, about the product, about your product, about reviews of your product and then you... you... come by yourself to the conclusion to have to change something. [...] and you don't have the time to do this."* - interviewee 1

Despite the lack of time for proactive BM development, it has been identified that the case company also does not make efficient use of the time available at its disposal (*"we have a problem with closing down stuff that doesn't work"* - interviewee 4).

> *"We had a discussion inside the company if we should put more RAM into our servers, and this was 4 gigabytes of RAM on each server, and if you think about what RAM costs... it was around 350 [currency, < EUR 50] at the time. It took three months to take that decision to put in 4 gigabytes of RAM." - interviewee 4*

The inefficient use of time has also been identified as being caused by improper prioritization. The company tends to place a high priority on many things without considering the time required to do so (*"one of the biggest challenges for any leader or leadership team is to prioritize what to do. Sometimes people will think it's enough to just put numbers in front of everything, right? We'll do this first, and then this, and then this. However, I feel that if you're not de-prioritizing something, you're not prioritizing something [else]. So everything is more or less high priority since we can't even close things that we need not to focus on to get something done."* - interviewee 3).

"We try to do all the things at the same time." - interviewee 7

4.2 Core rigidities

Core rigidities (figure 8) have been identified within the case company, particularly in the dimensions related to technical systems and management systems. We explore these areas in order to provide a basis for discussion and connection with incumbent inertia in terms of dynamics.

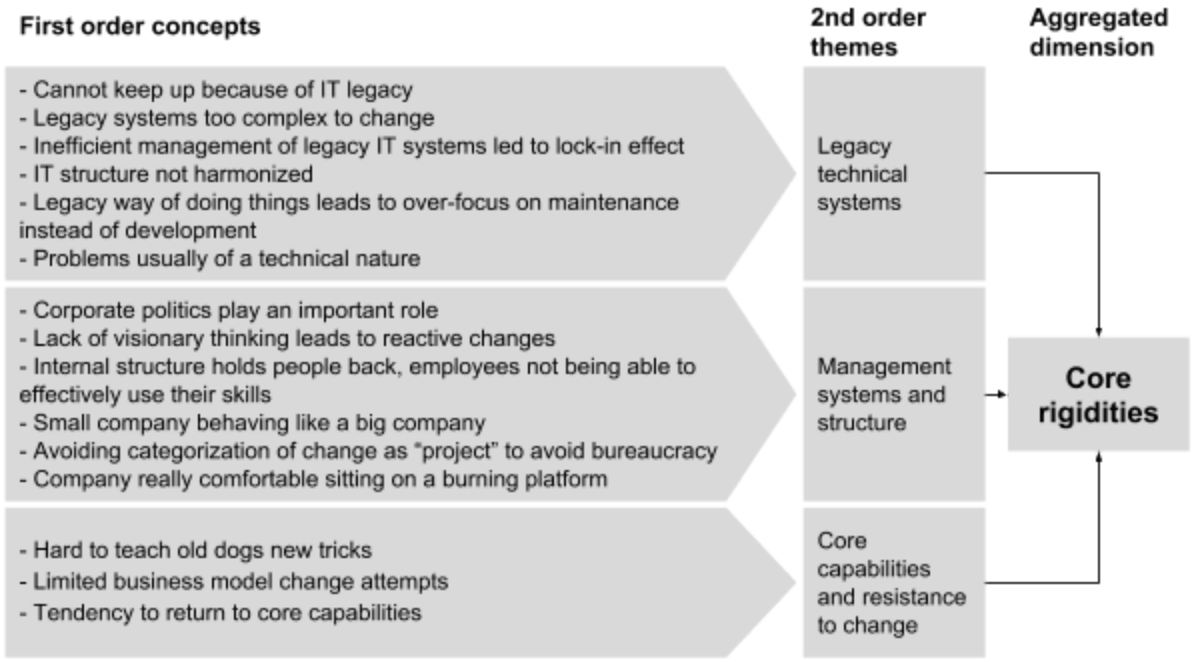

Figure 8: Collected data structure (core rigidities)

Legacy technical systems: Legacy technical systems have been overwhelmingly identified as problematic. They have also been directly connected to the company's ability to keep up with competitors (*"our competitors seem able to make greater technological advances a greater speed than we're able to do so and that's because of the complexity in our IT such that we were unable to, were unable to meet the needs of the market - we're unable to change effectively."* - interviewee 2). Having connected IT systems with an inherent inability to meet market needs and also with an inability to effectively change, we identify the technical systems dimension of core

rigidities (Leonard-Barton, 1992) as an item of particular importance in the case company. Problems are further exacerbated by complexity (*"I mean, to give an example, our core systems which should be built to handle all the markets, actually exist in eight different versions"* - interviewee 3), which makes them difficult to change (*"we find is that we have very complex systems that people don't know how to service and a lot of those are coming to the end of their [lifecycle] lives or there are changes required on those systems, and the cost of then making that change is disproportionate, vastly disproportionate to our competitors."* - interviewee 2). Legacy IT systems, as they stand, are seen more as a liability rather than a capability asset (*"We have such a such a diversified IT structure in the countries and in the center that we are we're hindering ourselves."* - interviewee 1).

"we are still sitting on a big spaghetti bowl of our legacy. [...] I think we are struggling a lot with our technology infrastructure. So it's legacy, it's old, it's not really what we would need to have in 2018" - interviewee 7

Management systems and structure: The structure of the company has been identified as hindering any type of change, including business model change (*"I would also say the only form of allocating resources for the project, is the formal project office environment. [...] and [functional managers] focus on their own, you know, more close local objectives and agendas."* - interviewee 5). Projects unaligned with the core capabilities of the company would be tackled, by one interviewee, by first trying to "get buy-in from top-top leadership", with the importance of publicly-stated support being crucial (*"Well, that's good, the managing director said we're going to do this. Great. So we know we're going to do this. If the managing director doesn't also publicly state to everybody else that I have said we're going to do this, then you're sort of one hand behind your back."* - interviewee 3*).* Lack of visionary thinking has been identified as directly impacting the reactive approach (*"I think it's the absence of visionary thinking and a [lack of] culture of being visionary and [lack of] actual backing for, you know, strongly forward looking initiatives"* - interviewee 5).

"Because [redacted:case company] is a small bank but behaves like a huge, old big bank." - interviewee 3

"it feels like being in a company with like 100,000 employees [but] we are actually quite small" - interviewee 7

"we have kind of created a bureaucratic beast" - interviewee 7

The structure and systems appear to be "comfortable" in a state of "2-steps behind" (*"Since I've been working in [redacted:case company] we've been on a burning platform. So we're really comfortable in the fire and that's that's really strange situation to be in."* - interviewee 4). The internal structure has been noted as being of particular importance when it comes to enabling core rigidities, and connected to incumbent inertia (*"our structural readiness to innovate so we're very... and so the way we organize is very static"; "I think it [inertia] came from the structure that was created around people."* - interviewee 5). Management systems have been explicitly identified as the culprit (*"challenges that I see in the bank in general are related to the governance"* - interviewee 6).

"I think there are a lot of people who urge, 'I do want to change [the company]' and had great skills and can see opportunities and wanted to take those opportunities. I think the structure that has been created prevents them from doing that." - interviewee 2

"People are desperately crying out to use their skills, to do things differently, but they're always finding it impossible to do that because the environment here, the infrastructure doesn't make that possible." - interviewee 2

Core capabilities and resistance to change: It was observed based on collected data that when change does occur, it is a relatively rare occurrence since there is a lot of internal resistance to any kind of change and also the tendency to return to core capabilities. This has been mostly attributed to being *"hard to teach old dogs to sit"* (interviewee 3). It has been identified by interviewees that the company tends to wait until no longer possible to not take action (*"I think we tend to wait on things until they are pretty bad before we make any changes"* - interviewee 5). Perhaps a more fitting example is the fact that things which have been identified as potential proactive changes in the past are only implemented subsequently when they are required by compliance regulation and the case company has no other option but to react (*"We could have done that in the past and now it has come up as a compliance. Now we don't have money to do it but we need to do it. So before maybe it had cost us two to three times less than what we have to pay today. It is because we didn't take the hits up front."* - interviewee 6). This outlines a connection to resource limitations.

"So I'm working with all sorts of people internally, higher management, middle management, people who have been around for a long time, new people just trying to get them to realize that there are different ways of working." - interviewee 3

Resistance to change, particularly to more radical change, is also related to speed of delivery to market. The short-term focus is evident (*"if something takes a really long time and costs a lot of money, then I don't think people would would do it because you have to deliver something really fast."* - interviewee 4).

"we tend to make things really, really complicated and even though we have the values of common sense and simplicity, we quite occasionally don't apply [them]." - *interviewee 7*

4.3 Internal culture

Collected data points towards a direct relation between internal culture (figure 9) and incumbent inertia/core rigidities. We explore the human resources area in order to provide more contextual evidence for the dynamics between incumbent inertia and core rigidities.

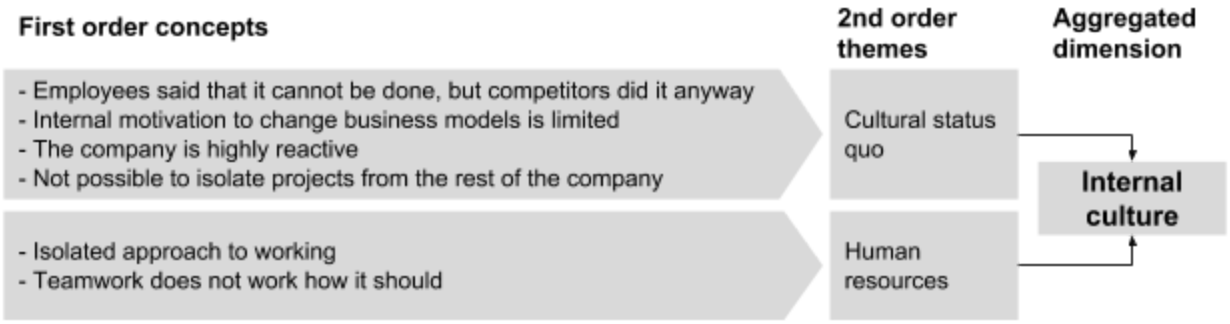

Figure 9: Collected data structure (internal culture)

Cultural status quo: Interviewees have identified that the culture limits proactive approaches. Inertia-based thinking leads to lost opportunities and promotes reactive change (*"everybody [internally] said a bank will never be allowed to go to the cloud and then… oops somebody did. See… of course we could have been there, but everybody was saying it can't be done."* - interviewee 3). This phenomenon is outlined as widespread within the case company.

"people focus on what they see as possible. So the mindset of many individuals in company is very narrow indeed and that the opportunities people see tend to be very small in scale because they're limited by what they see see to be achievable." - interviewee 5

The above is merely one example of how the internal culture promotes reactive change. The reactive approach has been outlined in multiple interviews, in multiple contexts (*"we don't spend much time actually looking at the future"*; *"Sadly, [redacted:case company] is highly reactive. In fact, in many ways, I think the problem has been that, there has been no proactive foresight or development in response to those strategic threats."* - interviewee 2). There is an overall internal barrier towards change, since motivation for it has been historically limited, potentially due to the inhibiting structure (as outlined previously): *"I've been here for [redacted:years] and I don't see a significant change in the business model. I don't see any new sources of revenue."* (interviewee 5). However, a change in motivation is, as outlined previously, envisioned for the future and not in present times (*"So we're really comfortable in the fire [right now] and that's a really strange situation to be in. I think the newly discovered motivation that has come inside the company is... it's actually based on 'okay we can move stuff on a new infrastructure' [in the future], and that has created some kind of motivation and a will to actually discover opportunities again. I haven't seen that before in the company"* - interviewee 4). Overall, past and present times appear to be linked to reactivity and lack of motivation for change, but there is an optimism for the future (albeit, this was outlined by a limited number of interviewees). As this study aims to uncover evidence of phenomena occurring in the present or having occurred in the past, unconfirmed future states implied by a limited number of employees do not impact the validity of the collected data for the purposes of this study.

Human resources: The case company adopts an isolated approach to working, limiting dynamics between teams potentially possessing various capabilities and knowledge (*"very isolated because everyone says okay my country is totally different from your country"* - interviewee 1).

"Teamwork is not "let me help you", teamwork is 'you have to help me - come on, be a team player'." - interviewee 3

4.4 Change

The aggregated dimension of change (figure 10) covers the change-based environment, both internal and external to the company, referring to multiple types of approach to change and reasoning behind it. It helps explain the context, and creates the basis for discussion in terms of the reactive BM change approach influenced by the dynamics between incumbent inertia and core rigidities. The most intriguing discovery is related to the fact that despite an apparent realization that proactivity is essential, together with the inherent need for continual change, the case company is still over-focused on reactive approaches - and even these generally occurring only when there is no other choice but to enact change. This represents empirical evidence for the implied inertia identified in this study.

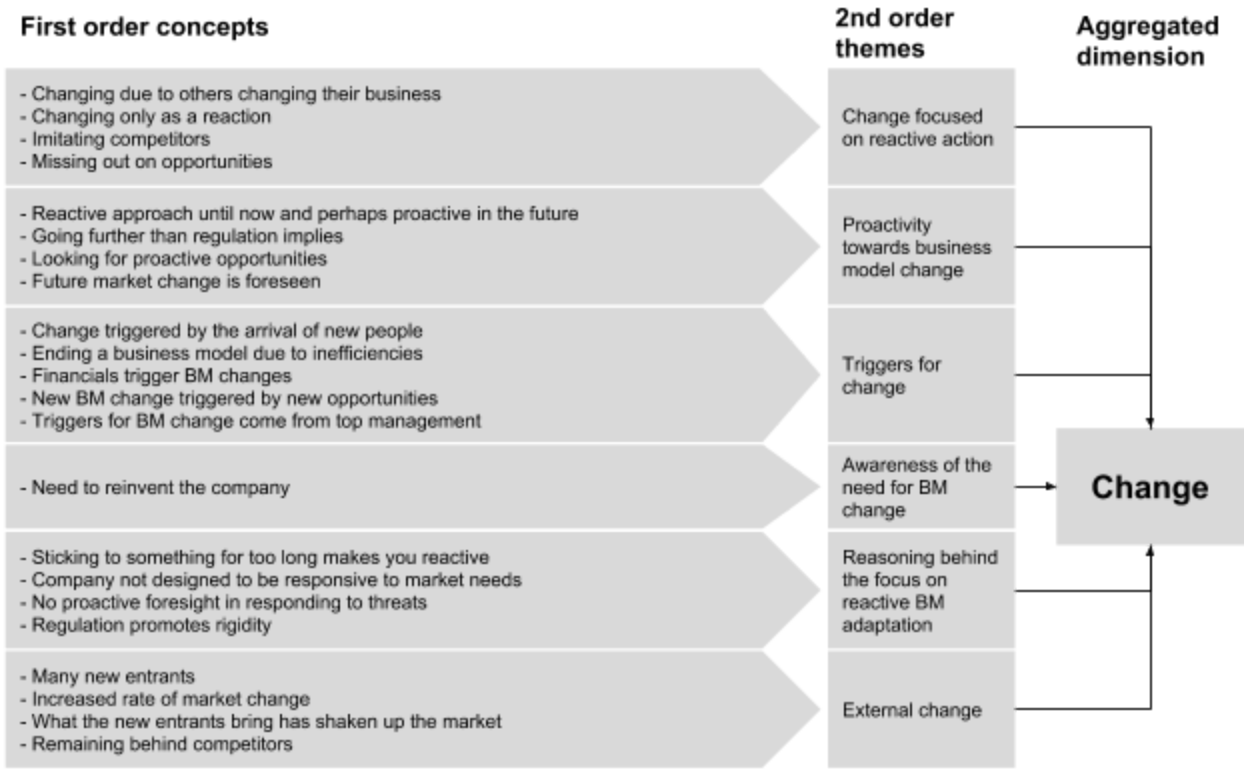

Figure 10: Collected data structure (change)

Change focused on reactive action: Interviewees have identified the case company as overly-focused on reactive approaches towards BM change. This means that the company takes

action in reaction to third parties changing their business (*"[a competitor] launched an insanely fast website, which means they are beating us in search engines, and that has actually triggered [...] a new project"* - interviewee 4), and tends to enact change only under reactive circumstances (*"we were the provider for [redacted:partner1] with our old product and then [redacted:partner1] said that they would like to do business with others as well who can provide [them with] very aggressive margins, and so we have to follow as well [with providing aggressive margins]"* - interviewee 1). It has been directly acknowledged that the company acts in imitation of its competitors (*"if there are new technologies available, then we of course do the same as the competitors"*, and consequently *"some competitors are faster than us and they are earlier with their product on the market"* - interviewee 1) , this leading to many missed opportunities since the lack of proactive change leads the firm to get in the game too late (*"we've provided [redacted:offering 1] for many, many years and so we've almost pulled out of [redacted:offering 2] - so we've completely missed the shift in the market"* - interviewee 2). The company is seen as *"definitely, definitely reactive"* (interviewee 2).

"The immediate trigger [to BM change] was the crisis in the performance of our technology and [also] regulatory concerns, as we have to run reliable systems, and that was becoming seriously withered down and questions were being asked." - interviewee 5

Proactivity towards BM change: Despite the reactive approach to change in general, and to BM change in particular, employees of the case company do acknowledge the importance of being proactive. However, there is a tendency to relate proactive change approaches as implemented in the future, while the status quo remains based on reactive change. Perhaps an intriguing discovery is related to the fact that future market change is often foreseen by the company (*"the basis of all credit cards is disappearing [together with] the credit card, [and] I don't see why we should have it [in the future]"* - interviewee 4). This is the result of the company actively looking for latent trends (*"we are also looking independently from external*

factors to what's going on in the market" - interviewee 1). However, when it comes to implementation of proactive change, this is observed as being limited. For example, an interviewee has identified a proactive change as merely doing more than what the banking regulation demands (*"we are actually going further than what a regulatory institution says we should. I think that it is a commercial opportunity that is being chased by fixing compliance things"* - interviewee 4). All in all, proactivity towards change has been observed, albeit to a very limited extent, and mostly thought of as an approach to be used in the future.

Triggers for change: This second order theme takes into account specific scenarios under which BMs change other than mere reactions to the external environment. It has been identified that new people trigger change (*"the arrival of new people to a middle management position like [redacted] who came and [...] set up a new [business] structure"* - interviewee 3). Ineffective business models are terminated (*"we now terminated it [a business model] because we were not efficient in several areas of the product and therefore it produced a lot of losses and [opened up to the possibility of] fraud"* - interviewee 1) , albeit to a very limited extent (*"we have a problem with closing down stuff that doesn't work"* - interviewee 4). An important aspect is related to where most BM change triggers originate (*"triggers come almost from the top management*" - interviewee 4), with an employee arguing that this is also related to reactive behavior (*"I think they go to a conference and see what competitors have done and they say 'we have to do the same'"* - interviewee 4).

Awareness of the need for BM change: Directly related to the theme on proactivity towards BM change, data suggests that despite it being limited in scope within the case company, there is an internal realization that it is, in fact, required (*"I think we are mostly sitting on a cash cow, and we need to reinvent ourselves"* - interviewee 4).

Reasoning behind the focus on reactive BM adaptation: Respondents have identified that the over-reliance on reactive adaptation is, partly, caused by repetitive focus on old business models (*"I think in a lot of companies, what worked in the past you stick to this and then you are mainly*

reactive to change something. [...] This is specific common behavior for [redacted:case company]" - interviewee 1). The current business model has been identified as not designed to be responsive to change (*"the company wasn't designed to be responsive to the needs of the market [...]. That's the problem today."* - interviewee 2).

> *"Sadly, [redacted:case company] is highly reactive. In fact, in many ways, I think the problem has been that there has been no proactive foresight or development in response to strategic threats."* - interviewee 2

An important reason behind the reactive approach towards BM change has been identified as the increased regulation of the sector which leads to bureaucratization (*"We can have whatever process we want but if we don't have it defined, we are not compliant. So, if you start a project or an initiative which might be a business model or part of a business model and you have not involved all the parts of the company that you need to get it documented and adopted and so on, then you're by definition not compliant"* - interviewee 3).

External change: The externally-mandated change plays an important role by triggering reactive BM adaptation inside the case company. The external environment is dominated by many new entrants (*"we're seeing a lot of new entrants in the payments space and the lending space enabled by technology"* - interviewee 2), and thus the company might be, theoretically, overwhelmed by externally-triggered change which is focused on areas which are not part of the case company's core capabilities, here exemplified as technology (*"that's really shaken up the market [referring to a new offering by a competitor], to the extent that the traditional model of, you know, a customer going into a retail store and filing in an application for personal credit and getting an approval for that credit... you know... that's almost redundant now."* - interviewee 2). In this context, it has been identified that the case company is lagging behind competition (*"we see them, wave, and watch them pass"* - interviewee 3).

Chapter 5: Discussion

In this section, we infuse the findings with meaning by analysing the dynamics between incumbent inertia and core rigidities, and outline the relation between these dynamics and the reactive approach on BM change. The findings support the logic based on the identified typology of incumbent inertia being of two types, namely voluntary inertia and implied inertia. These two types of inertia have very distinct dynamics in relation to core rigidities, and this separation will guide the discussion. This presents an opportunity to add to the literature by introducing a time-related dimension to the priorly-mentioned dynamics, allowing for identification of the stage of rigidity/inertia at which a company is situated at a specific point in time. Based on the point on the time axis, different traits are implied which serve as a better guide than a generic approach on the effects of core rigidities and incumbent inertia on the firm, in isolation. In addition, the findings show that areas of particular importance are the internal structure, culture, and the change-related dynamics within the company. Under the next headings, we relate our findings to extant literature and infuse new meaning, and subsequently present the unique contribution of this study by providing an answer to the proposed research question.

5.1 The dual-view of incumbent inertia and the relation to core rigidities

The highlighted typology of incumbent inertia (voluntary inertia / implied inertia) is characterized by the dynamic between each of the two types of inertia and core rigidities. This new typology is based on ideas put forward by extant literature (as demonstrated under heading 2.2) and supported by the findings of this research (the case company has been identified by interviewees as entrepreneurial and proactive in the past, followed by a formalization and rigidity-inducing phenomenon which led to perpetual inertia due to having to operate within rigidity-based constraints). Analyzing voluntary inertia and implied inertia in relation to core rigidities highlights elements which contribute towards the understanding of both incumbent inertia and core rigidities individually, and more importantly, towards the understanding of the

importance of their dynamics and specific elements influencing these dynamics. Whether we refer to the voluntary inertia and its dynamic with core rigidities, or to core rigidities in relation to implied inertia, the implications for companies are vastly different. While a reactive approach towards BM change may not be evident in the early stages of voluntary inertia, implied inertia is saliently characterized by reactive approaches towards change, as will be demonstrated in the subsequent analysis.

Voluntary inertia is identified as one antecedent of core rigidities, and it is acknowledged that other antecedents are applicable as well. On the other hand, since implied inertia is strictly caused by core rigidities, it is therefore essential to outline that implied inertia can occur independently from voluntary inertia, and vice-versa if voluntary inertia is managed in a way that does not lead to core rigidities.

5.1.1 Dynamics between voluntary inertia and core rigidities

Voluntary inertia is a rational response of the firm in relation to replicating actions which increased profits in the past, which coincides with a perspective on incumbent inertia identified by Lieberman and Montgomery (1988). Findings show that the case company was *"very entrepreneurial"* (interviewee 4) in the early years of existence, suggesting that this approach led to the discovery of actions which, through proactivity, generated substantial value for both the company and the consumers. Therefore, there was a natural progression of the firm towards stability, as similarly argued by Doz and Kosonen (2010) in their research. Inertia as a profit-maximizing response (Lieberman and Montgomery, 1988) increases the efficiency of business models by creating, delivering, and capturing value using skills and knowledge which are known to lead to profitability. At the initial stages of voluntary inertia, efficiency is therefore increased. Voluntary inertia builds on core capabilities in order to increase efficiency. However, as the context changes, the actions that increased profits in the past may no longer be able to do so in the present. Collected data identifies that the case company, although entrepreneurial in the beginning, *"somewhere along the line [redacted:case company] became less entrepreneurial"* (interviewee 4). Additionally, it has been identified that simplicity is not implemented despite

being part of the original values of the case company (*"we tend to make things really, really complicated and even though we have the values of common sense and simplicity, we quite occasionally don't apply [them]"* - interviewee 7). If companies continue the inertia in an uncontrolled manner, they reach what Levinthal and March (1993) refer to as the "success trap". This trap is characterized by voluntary inertia, which increased efficiency in the past, as turning core capabilities into core rigidities (Leonard-Barton, 1992). This leads to a structural "lock-in", and core capabilities start showing signs of liability (it is recognized, however, that voluntary inertia represents one antecedent factor of core rigidities - other antecedents might be present in real-life scenarios). Findings show that the case company, through voluntary inertia, evolved its technical systems through incremental additions as this was a successful method in the past. This led to IT legacy systems to become overburdened with complexity because of a lack of proper overview of architectural planning for the incremental changes, blocking radical change even though it may be required by new circumstances (*"we find [...] that we have very complex systems that people don't know how to service and a lot of those are coming to the end of their [lifecycle] lives or there are changes required on those systems, and the cost of then making that change is disproportionate, vastly disproportionate to our competitors."* - interviewee 2). In addition, the case company lost its visionary thinking through consistent implementation of voluntary inertia (*"I think it's the absence of visionary thinking and a [lack of] culture of being visionary and [lack of] actual backing for [...] strongly forward looking initiatives"* - interviewee 5). Therefore, we identify the effects of inertia on culture as an addition to extant research. The swift, forward-looking entrepreneurial culture that was identified as present in the early stages of the company existence was, through the over-employment of voluntary inertia in the pursuit of efficiency, virtually eliminated in the favor of bureaucracy (*"we have kind of created a bureaucratic beast"* - interviewee 7) and reliance on rigidity-ridden capabilities (*"[redacted:case company] is a small bank but behaves like a huge, old bank"* - interviewee 7). Culture based on the effects of inertia leads to lost opportunities and promotes a reactive approach towards BM change (*"everybody [internally] said a bank will never be allowed to go to the cloud and then… oops somebody did it. [...] we could have been there, but everybody was saying that it can't be done"* - interviewee 3).

Consequently, the argument has been made towards the introduction of a time-based dimension in relation to inertia and core rigidities. Voluntary inertia is implemented in order to increase efficiency by making use of core capabilities, and with the progression of time, this may lead to the "success trap" (Levinthal and March, 1993). Uninterfered with, this subsequently leads to the gradual creep of core rigidities into the core capabilities, turning previous assets into liabilities. Culture change is also present on this time axis, as the continual use of voluntary inertia leads to an adverse cultural shift. As analyzed under subsequent headings, these effects are further propagated as the focus is shifted from voluntary inertia leading to core rigidities, towards core rigidities leading to implied inertia.

The contributions of this research to literature, in terms of the dynamics between voluntary inertia and core rigidities, are outlined as the adverse effects of this dynamic on internal culture if voluntary inertia is improperly managed and controlled. The adversity of this effect is linked to a time axis progression representing voluntary inertia leading to core rigidities, which coincidentally also shows an increased level of efficiency at the onset of voluntary inertia, followed by a drop in efficiency if the "success trap" is reached, consequently leading to the formation of core rigidities. Therefore, we bring light to the mechanism weaving voluntary inertia and core rigidities.

5.1.2 Dynamics between core rigidities and implied inertia

Having outlined the dynamics between voluntary inertia and core rigidities, showing how core rigidities can be caused by the over-reliance on voluntary inertia, the focus is now shifted towards core rigidities and their subsequent effect on implied inertia. Implied inertia is defined as the propagated implementation of actions and decisions as a consequence of having to work within specific constraints dictated by the presence of core rigidities. Implied inertia is still related to an understanding of the specific actions, or intent, however due to the existing constraints, alternatives are overly difficult to implement, as will be addressed in this section. Extant literature occasionally labels this type of inertia as *economic inertia* (Gilbert, 2005; Besson and Rowe, 2012; Haag, 2014). Economic inertia is defined by perpetual implementation

of action due to limitations in terms of resources, or current inefficient systems employing too many sunk costs (Gilbert, 2005). If voluntary inertia initially increases business efficiency by employing what works (Lieberman and Montgomery, 1988), implied inertia is by definition characterized by lowered efficiency due to the implied limitation of having to work under constraints dictated by core rigidities. This is directly identified in the findings of this report (*"we are certainly less efficient and slower than other organizations. I think we need to be quicker and so I hope that we can be, but I think we need to make some changes for that to happen"* - interviewee 5). It is therefore identified that efficiency cannot be increased unless changes are made to allow for it. Inefficiency is perpetuated by the existence of core rigidities and the sandbox which they lock the company into. Collected data supports this by showing that employee skills are not efficiently used, as their skills cannot be put to use because of existing constraints (*"the company does things slower and less efficient than it could, despite [...] lots of very committed and highly efficient banking people here"* - interviewee 3). Therefore, it is uncovered that the human resources are not necessarily the issue, but the structure around the human resources of the company. This structure stems from the management systems dimension affected by core rigidities (Leonard-Barton, 1992). Indeed, the findings of this study further support the notion of structure holding the employees back, despite intentional attempts to rectify this (*"I'm working with all sorts of people internally [...] trying to get them [upper management] to realize that there are different ways of working"* - interviewee 3). Despite the desire of some employees to enact change, this is not possible because of the confines dictated by core rigidities, so the implied inertia is continued. Findings show that this phenomenon takes extreme forms in the context of implied inertia (*"there are a lot of people who urge, 'I do want to change [the company]' and had great skills and can see opportunities and wanted to take those opportunities. I think the structure that has been created prevents them from doing that"* - interviewee 2). Consequently, we add to literature by recognizing that in the case of implied inertia caused by the confines of core rigidities, enacting change is largely an unrealistic endeavor despite the importance of change being recognized by the company. This recognition of the need to break away from the implied inertia and inability to act on it because of core rigidities represents an intriguing discovery. However, it is assumed that change could

theoretically still be implemented if action is taken outside the confines of core rigidities. This implies breaking free from them - in the case of which, radical action is required by the upper echelons of management.

Collected data shows that time spent working within the confines of rigidity-based inefficiencies and managing them leaves no time to think proactively (*"You don't have time, [it takes] so much time to be proactive because proactive means that you think in general about the market, about the product, about your product, about reviews of your product and then you... you... come by yourself to the conclusion to have to change something. [...] and you don't have the time to do this."* - interviewee 1). Therefore, the reactive approach towards BM change can be considered a given in the context of the presence of implied inertia. The presence of implied inertia is not sustainable in the long term. Extant literature explicitly identifies that organizational survival is closely related to intentionally disturbing the old fit (Chakravarthy, 1988). Lieberman and Montgomery (1988) identify inertia as being caused by the firm being locked-in to specific assets. This lock-in further increases the advantage of competitors who are not under the effect of the lock-in effect, as shown in the findings (*"technology is moving incredibly quickly and our competitors seem able to make greater tech advances at a greater speed than we are able to"* - interviewee 2). Repetitive, inertia-based focus on old business models has been identified as a direct cause for reactive approaches towards BM change (*"what worked in the past… you stick to this and then you are mainly reactive to change something. This is specific common behavior for [redacted:case company]"* - interviewee 1). Core rigidities cause and propagate implied inertia in the case company since its BM is not designed for change, being too rooted in core rigidities - the way in which the company develops, delivers, and captures value (Floren and Agostini, 2015) is consequently based on old business contexts (*"the company wasn't designed to be responsive to the needs of the market [...]. That's the problem today"* - interviewee 2). Therefore, an inertia-based approach is enacted. This phenomenon is also characterized by a lack of dynamic capabilities, defined by Collis (1994) as the firm's ability to change operational capabilities in order to keep them relevant to a changing environment.

Reactive approaches to change have been found to be heavily influenced by implied inertia. In the case company, resources are tied to the management of legacy systems, primarily characterized by the technical systems dimension affected by core rigidities (Leonard-Barton, 1992). Devoting resources to these systems creates a self-reinforcing cycle by the means of the sunk cost phenomenon, further strengthening the dependency on these systems and the implied expectation to inertially use them. Furthermore, collected data explicitly demonstrates a causal relation between reactive approaches and resource limitations saliently characteristic to implied inertia (*"We could have done that in the past and now it has come up as a compliance. Now we don't have money to do it but we need to do it. So before maybe it had cost us two to three times less than what we have to pay today. It is because we didn't take the hits up front."* - interviewee 6). In addition, findings suggest that projects aligned with the status quo of the implied inertia have a significant advantage when it comes to internal upper-management support and financing. This represents a return to the core capabilities in order to move the projects forward, which is suggested by Leonard-Barton (1992) as being an expected way in which managers deal with core rigidities. It is recognized that this return to core capabilities further reinforces implied inertia.

Overall, implied inertia is inherently leading to reactive approaches towards BM change because of the constraints imposed by core rigidities which propagate it (*"we're very stuck in a world of fairly static, generic, scoring models when our competitors and peers are moving on to [...] using automated learning, social data or many areas , many fields where we have virtually zero expertise and competence and we we still lack any credible programs to develop those competencies."* - interviewee 5). This study contributes to literature by identifying implied inertia as a "late stage" of inertia, with proactive approaches to change being largely obstructed. The culture of the company is heavily influenced by the inertia-based approach, and despite the fact that some employees might recognize the need for change, the status quo structure around them holds them back from using their skills to do things differently. A cultural status quo is identified as inertia-based thinking leads to lost opportunities and promotes reactive change (*"everybody [internally] said a bank will never be allowed to go to the cloud and then… oops somebody did. See… of course we could have been there, but everybody was saying it can't be*

done." - interviewee 3). Perhaps the most intriguing discovery is related to the fact that despite an apparent realization of the present inertia which is caused by the confines of core rigidities, the case company is still over-focused on reactive approaches due to the limitations imposed by the existing structure. Despite the reactive approach to change in general, and to BM change in particular, employees of the case company do acknowledge the importance of being proactive. Intriguing is the fact that future market change is often foreseen by the company, but no proactive change can be realistically implemented despite this realization. Change is implemented only as a reactive move, as directly identified by data, in order to ensure a level of corporate survival. However, there are issues moving forward (*"I don't see any new sources of revenue"* - interviewee 5).

Last, but not least, centralization and formalization are proposed as being particularly relevant as a facilitator of implied inertia. In line with theory posited by Janen et al., (2006) who argue that centralization is a precursor to exploitation, it was uncovered that extreme levels of exploitation are directly linked to implied inertia, in turn linked to working within the constraints of core rigidities. Centralization and formalization also relate to structure, which has been shown in this research to disempower change which is out of the bounds of the implied inertia.

The discussion on the dynamics between core rigidities and implied inertia outlines several contributions to existing research. Implied inertia has been shown to be characterized by lowered efficiency (as opposed to voluntary inertia), which is reinforced by a rigid internal structure disempowering change which is not aligned with the constraints imposed by core rigidities. Existing literature did not explicitly differentiate between voluntary inertia and implied inertia, and this study takes things further by uncovering salient characteristics of each, as outlined above. Perhaps the most striking discovery is related to the fact that despite the need for change being observed and recognized internally, and employees having the skills to enact this change, the implied focus on inertia resulting from core rigidities may not allow change to occur. This is the result of the above-mentioned structure, as well as resource and time-related constraints

stemmed from core rigidities, creating a self-reinforcing cycle of inertia-based action around the constraints of the rigidities.

5.2 Emergent model of inertia / core rigidities dynamics

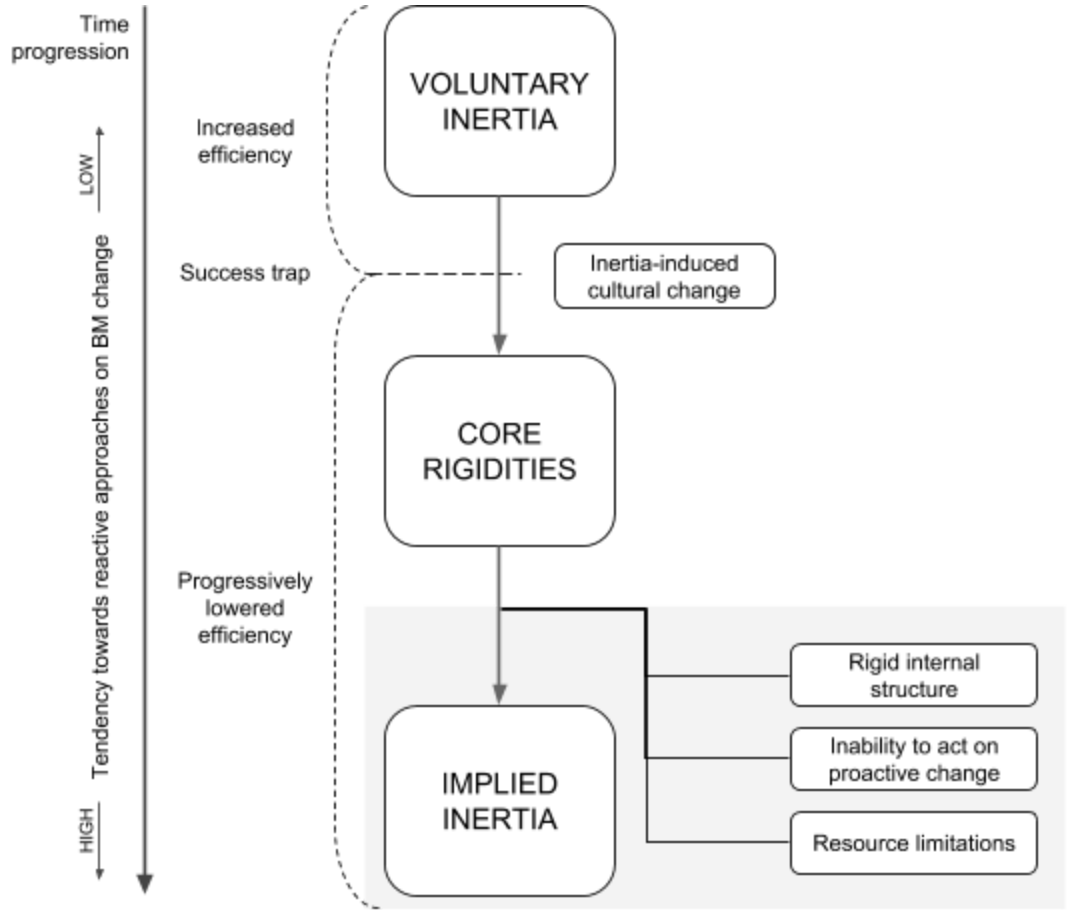

Figure 11: A simplified version of the model on core rigidities / incumbent inertia dynamics and their effect on the reactive approach towards BM change

Figure 11, based on the dynamics between dimensions presented in the *Findings* section, depicts a visual representation of the connection between inertia and core rigidities, and the effect on the reactive approach towards BM change. The time progression axis, which has been shown to coincide with a representation of the increased tendency towards reactive approaches, starts at the onset of voluntary inertia implemented as a profit/efficiency-increasing mechanism (in line with Lieberman and Montgomery, 1988). Voluntary inertia leads to core rigidities, particularly if

improper management of this inertia reaches the success trap (Levinthal and March, 1993). After this point, efficiency increase is no longer possible as business context alterations do not allow for prior sets of actions to be as profitable as under prior contexts. Subsequently, core rigidities are formed as a direct consequence of improperly controlled, continual use of voluntary inertia. This progression has been demonstrated to attract an inertia-induced cultural change in the company (characterized by a change from proactive entrepreneurial spirit to bureaucracy and formalization, as demonstrated by collected data). After the formation of core rigidities alongside core capabilities, specific constraints must be acknowledged which lead to implied inertia, as the company must act within the confines of these constraints. We acknowledge internal structure rigidity as part of the core rigidity / implied inertia dynamic, which disempowers breaking the implied inertia despite the problems being recognized internally and skilled employees having the capabilities to implement the required change. Arguably, this represents the most thought-provoking contribution of this study. Resource limitations (including time-related limitations) promote a self-reinforcing cycle for implied inertia, as resources tend to be disproportionately devoted to rigidity-ridden capabilities (Leonard-Barton, 1992), which in turn empower the implied inertia. Moreover, a direct association between the reactive approach to change (which is salient to implied inertia) and inefficient use of resources has been identified in the analysis.

Chapter 6: Conclusions

6.1 Concluding remarks

Continual BM adaptation is a core driver of value creation, delivery, and capture, and enables companies to be more receptive towards the external environment in terms of new ideas and alternative paths to market. Challenges and opportunities associated with BM change are different based on whether the firm has a reactive or proactive approach to enacting change. Focusing on reactive approaches towards BM change, these have been demonstrated to have various antecedent factors, and this thesis concentrated on the importance of *incumbent inertia* and *core rigidities.* The purpose was to analyse the dynamics between these concepts, which were subsequently based on a novel typology of incumbent inertia, and relate these dynamics to their influence on the reactive approach towards BM change. This newly identified typology of incumbent inertia identifies two different sub-types in relation to core rigidities (voluntary inertia and implied inertia) and represents a novel way of analysing the concept, helping towards a clearer understanding of the phenomenon which is often confused with the concept of core rigidities in extant literature. Additionally, a contribution is made towards the academic understanding of core rigidities, and their cause and effects in terms of their dynamics with voluntary inertia and implied inertia. Analyzing core rigidities and implied inertia as a dynamic model, as opposed to individually, allows for the visualization of a time-based axis on which companies are positioned, depending on their specific circumstances. We demonstrated the various traits relevant to specific points in time along this time axis, such as level of efficiency, internal culture change, and change-impeding structure. Perhaps more importantly, we demonstrated the influence of different stages of the time axis on reactive approaches towards BM change, outlining a gradually-increasing effect on the empowering of reactive action as the transition is made from the onset of voluntary inertia towards final stages of implied inertia.

6.2 Practical implications

A particular practical advantage of the proposed model (figure 11) is the fact that it allows for better identification on the time axis the point where companies may be positioned, and allows for outlining risks and potential actions to lower the negative implications of these risks. Explicitly, the model outlines the risk of over-focusing on voluntary inertia, which is associated with an easily-overlooked, yet increased risk for companies despite considering the initial benefits of increased profits/efficiency. Therefore, we recommend that companies be aware of the voluntary inertia → core rigidities causal relation, and control voluntary inertia prior to entering the *success trap* phase. This allows for a maximization of investments and competitive advantage, while controlling the negative implications of over-utilization of voluntary inertia. Additionally, for companies already in the implied inertia phase, we outline the need for radical, unaligned action from the upper echelons of management, considering the demonstrated inability to enact change based on normal operating procedures while the company is under the constraints of existing core rigidities. Practitioners should be aware of the increasing tendency towards reactive approaches on BM change as a direct result of over-utilization of inertia. While we acknowledge the initial efficiency-related benefits of voluntary inertia, the phenomenon should be carefully controlled in order to ensure long-term business sustainability.

6.3 Existing limitations

Due to the inherent nature of the single case study design employed by this research, we acknowledge potential limitations related to a wider generalizability of results (Bryman and Bell, 2011). Therefore, the identified dynamics between incumbent inertia and core rigidities, and their subsequent influence on reactive approaches on BM change, may show certain differences if analyzed in the context of other companies, industries, or even geographical locations.

Furthermore, the context of the case company shows particularities especially in relation to the high regulatory framework of the banking industry. This context may be potentially limiting the validity of the results when applied to less regulated industries.

6.4 Suggestions for future research

This study showed the progressively increasing tendency of firms to focus on reactive approaches towards BM change along the time axis leading from voluntary inertia towards implied inertia. However, this thesis does not tackle specific measurements of this tendency along different points in time, which would represent a logical next step for further developing the practical implications for firms in relation to the focused-on concepts.

Additionally, the characteristics of the dynamics between incumbent inertia and core rigidities could be further refined by analyzing them in the context of different companies in different industries, and highlighting the differences that may result from such a study. Assessing these differences will lead to a more mature conceptualization of the novel typology of voluntary inertia and implied inertia, and will additionally contribute to the general understanding of the incumbent inertia and core rigidities dynamics.

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Appendices

Appendix 1 - Antecedent factors deduced from extant literature, table summary

Antecedent factor	**Conceptual source**
Incumbent inertia	Conceptual capabilities outlined by Lieberman and Montgomery (1988)
Core rigidities	Core capabilities and core rigidities theory (Leonard-Barton, 1992)
Unimpeded natural progression of firms towards stability	The evolutionary firm perspective proposed by Doz and Kosonen (2010)
Lack of dynamic capabilities	Dynamic capability theory (Pavlou and Sawy, 2011)
Organizational inertia, improper management processes, improper modes of organizational learning, lack of change procedures, path-dependent constraints in general	Challenges to change (Massa and Tucci, 2013)
Past strategic orientations	Firm adaptability theory (Saebi et al., 2017)
Teams formed mainly through people with prior company affiliations	Team composition in the context of ambidexterity (Beckman, 2006)
Consistent use of one type of organizational structure	The simultaneous use of a variety of organizational structures as a precursor to ambidexterity, which we regard as the antithesis of reactive approaches towards BM change (Bradach, 1997)
Lack of using stretch, discipline, support, and trust in combination	Ambidexterity facilitated by the use of these factors in combination, hence not using them as a precursor to reactive approaches (Gibson and Birkinshaw)
Centralization and formalization	Centralization as a negative factor towards exploration, and formalization as a strengthening element for exploitation (Janen et al., 2006)
Presence of one or more types or organizational myopia	The organizational myopia concept (Levinthal and March, 1993)

Appendix 2 - Interview guide

Section 1 - Introduction

Hello, and thank you for accepting our invitation for this interview. We are business development interns from Lund University and we are conducting this interview as part of our research for our Master's Thesis.

a. **Conventions:** The information we collect from this interview will be anonymized and not directly connected to your name. We would also like to inform you that if you do not feel comfortable answering any question, for any reason, you can simply skip it without any consequence. Data will only be used, in an anonymized format, for the purposes of this specific research project. Last, but not least, we disclose the fact that we will audio record the interview so that it is easier to afterwards analyzed what we discuss about - and would also like to ask for your consent for this audio recording. Rest assured, after transcribing the audio recording into written format, the recording itself will be permanently deleted.
b. **Facesheet data:**

1.1 Can you please confirm your position in the company and the business area in which you operate?

1.2 How many years of experience do you have in the company?

1.3 How many years of experience do you have in the industry?

1.4 What are your main activities in the company?

1.5 *[if not brought up in the answer to question 1.4]* Do these activities include tasks related to business model change defined as the main activities of the company that develop, deliver, and capture value?

a. *[if participant also has experience from other companies]* What about in your previous positions with other companies?

Section 2 - Topic: Business model

2.1 What are the main activities of the company that develop, deliver, and capture value? *[explain that this is what we identify as "business model" for reference in future questions]* In relation to this, what would you say is the developed, delivered, and captured value proposition of the company?

2.2 Can you give any specific examples of prior attempts or initiatives in the company to change the way in which it develops, delivers, and captures value (in other words, its business model)? *[after initially allowing for open reaction to the question, follow up with:]* Please give examples based on each of the following, if applicable:

- Business model creation;
- Business model extension;
- Business model revision;
- Business model termination.

2.3 What triggered these business model changes? *[after initially allowing for open reaction to the question, follow up with:]* Do you see any of the following as applicable in the context of business model change triggers, and provide some examples for each?

- New commercial opportunities;
- Ineffectiveness of current business model, or anticipated obsolescence;
- Major threat from better equipped competition;
- New disruptive entrants.

2.4 Do you see the changes to the business model as reactions to external factors (such as technology, legislation, or trends), or as proactive attempts to get ahead of the competition? *[after initially allowing for open reaction to the question, follow up with:]* Can you please

identify concrete business model change attempts in the company which were reactive? What about proactive attempts?

Section 3 - Topic: Antecedent factors

Open question about antecedent factors:

3.1 Why do you believe that the business model change attempts identified so far were … *[reactive or proactive based on prior examples; expected: reactive]*?

Specific questions in relation to identifying incumbent inertia:

3.2 Do you recognize the firm as characterized by an increased use of knowledge and skills which increased profits in the past - in other words, doing things in the present simply because they worked in the past? *[after initially allowing for open reaction to the question, follow up with:]* Can you please provide some concrete examples?

3.3 Do you believe the case company is doing some things slower and less efficient than it could? *[based on answer, follow up with]* Why do you believe that is?

Specific questions in relation to identifying core rigidities:

A - Skills and knowledge dimension:

3.4 Do you believe that the company's over-emphasis on *[previously identified incumbent inertia examples]* may lead to people skilled in other functions to leave the company, or not seek employment here?

B - Technical systems dimension

3.5 Do you believe that the company is locked-in by its existing deployments and fixed assets, for example legacy IT systems?

C - Management systems dimension

3.6 Do you believe, or have observed, people be reluctant to use their skills for projects which are not aligned with the activities on which the company focuses?

D - Values dimension

3.7 Do you believe that employees working with these unaligned projects get recognition on parity with employees involved with projects which are aligned with the company's "way of doing things" focus?

Question connecting BM change attempts, as identified in section 2, to incumbent inertia:

3.8 Relating to the business model change attempts identified earlier [remind the participant about the concrete examples he/she provided], do you believe that the *[reactive or proactive, expected: reactive]* approach to business model change was influenced by the actions taken by the company simply because they worked in the past, so they were repeated?

Question connecting BM change attempts, as identified in section 2, to core rigidities:

3.9 Also in line with the business model change examples, would you associate the negative consequences identified in the prior questions *[remind the participant about answers to questions 3.3, 3.4, 3.5, 3.6]* as playing a role for the *[reactive or proactive, expected: reactive]* approach to business model change?

3.10 Hypothetically, if you were faced with leading an internal project which is not aligned with how the company usually does business, how would you tackle this challenge? *[after initially allowing for open reaction to the question, follow up with:]* What is your opinion on the applicability of:

- Abandoning the project completely
- Returning the the company's core capabilities for solutions
- Adjusting the project so that it better matches the core capabilities of the company
- Isolating the project from the rest of the company

Section 4 - Summing up

Ask for an opportunity for a follow-up interview in case of one or more of the following:

- New areas of interest uncovered;
- Discussion went out of scope;
- Interview ended before all questions could be sufficiently explored;
- Interview ended prematurely.

[Lead interviewer provides quick summary of discussion]

4.1 Do you believe we missed any topics worth covering for the purposes of this study?

4.2 Do you have any questions for us?

4.3 Would you be open to follow-up contact?

Thank you for your participation in this study!

Appendix 3 - Basic interview guide

This basic form of the interview guide was provided to interviewees in advance of the interview taking place. It does not include the explicit interview guide questions - however, it introduces the main topics that will be covered. This basic interview guide was provided as follows:

Section 1
Conventions: The information we collect from this interview will be anonymized and not directly connected to your name. We would also like to inform you that if you do not feel comfortable answering any question, for any reason, you can simply skip it without any consequence. Data will only be used, in an anonymized format, for the purposes of this specific research project. Last, but not least, we disclose the fact that we will audio record the interview so that it is easier to afterwards analyzed what we discuss about - and would also like to ask for your consent for this audio recording. Rest assured, after transcribing the audio recording into written format, the recording itself will be permanently deleted.
General information: Details about you, such as position in the company, responsibilities, years under employment with the company, years of experience.

Section 2
This section will cover a discussion about the way in which the company does business, and how it changes this based on various circumstances.

Section 3
We take this opportunity to talk about the competencies of the company and the advantages of these competencies. We will then try to uncover what adverse effects the reliance on these competencies might bring. The discussion will also cover topics such as the company's path dependency, inertia, and organizational flexibility.

Section 4
We will sum-up the conversation and allow for an opportunity for you to ask any questions that you might have regarding this interview or the study for which it was conducted.