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Non-Core Innovation Challenges Faced by Incumbent Firms

A Case Study Investigating Challenges Faced by a Product Strategy Department at a Multinational Incumbent Technology Firm When Pursuing Non-Core Innovation

Master's thesis in Quality and Operations Management

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SUMMARY

Incumbent firms, with their established market positions and competitive advantages, excel in stable environments due to strong customer relationships and product specialization. However, they often struggle to adapt to market changes and focus on disruptive innovation, leading to the "Incumbent's Curse." This occurs when incumbents resist radical ideas that new entrants develop, reshaping the market and threatening the incumbents' dominance. Despite this, some incumbents successfully pivot to new markets, as seen with GKN and The Tandy Corporation. Research indicates that while incumbents can pursue radical innovation, many struggle due to mechanistic organizational structures and a focus on sustaining innovations for existing customers.

This thesis examines the primary challenges an incumbent firm faces when pursuing non-core innovation, using a case study approach on a multinational technology firm active in the automotive industry. Focusing on a product strategy department, the study identified eight significant challenges, which were grouped into three main areas. The first area highlights the difficulties in discussing innovation, due to varied interpretations of terms like "disruptive," "adjacent," "transformational," and "non-core innovation." This complexity underscores the need for a common language and comprehensive discussions within the department. The second area addresses the dilemma of responsibility for non-core initiatives. Opinions were divided on whether the department should handle non-core innovation, with employees advocating for a broader innovation scope to mitigate risks, while managers were more cautious due to perceived higher risks. The third area pertains to practical challenges in driving non-core innovation, including the impact of reorganization, resource allocation issues, mindset and motivation problems, and structural barriers. These challenges suggest the need for a shift in organizational mindset and resource allocation, potentially requiring a separate division for non-core innovation.

The thesis primarily focused on identifying challenges rather than providing solutions, laying the groundwork for future research. However, six practical recommendations could be provided: achieving a unified view on non-core innovation, educating on various innovation theories, balancing resource allocation, establish a workforce with diverse skills and knowledge backgrounds, creating a separate unit for non-core innovation, and establishing new valuation methods for non-core initiatives.

Limitations to the study include the single-case design and time constraints, which may affect the generalizability of the findings. Future research could involve multiple case studies and exploring industry-specific challenges and solutions for non-core innovation.

Keywords: innovation, non-core innovation, incumbent firm, innovation challenges, disruption, Incumbent’s curse, radical innovation, transformational innovation, mechanistic structure.

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1. Introduction

This chapter introduces the background of the study, followed by a discussion of the research problem. Subsequently, this leads to the study's purpose and research question. The chapter concludes by describing the context of this case study.

1.1 Background

An incumbent firm is characterized by having an established position within a market. They have prevalent competitive advantages compared to so-called entrants, particularly if cost savings come from learning by doing and if product quality and reputation are of high importance within the market (Oxford Reference, 2024). This may indicate that incumbent firms often excel in stable and predictable markets due to their rich market knowledge, strong customer relationships, and product specialization. However, when the market situation shifts, the once competitive advantages of incumbent firms can become hurdles difficult to overcome.

Throughout history, numerous incumbent firms have faced obsolescence due to insufficient focus on disruptive innovation and an inability to swiftly adapt to market changes (Christensen, 1997). This phenomenon is frequently depicted in literature through a sequence of events (Christensen, 1997; Chandy & Tellis, 2000; Ghemawat, 1991; Henderson, 1993; Utterback, 1994). It typically begins with an incumbent firm enjoying considerable success, potentially even holding a dominant market position in a particular industry. Suddenly, an individual either within or outside the incumbent firm conceives a radical, innovative idea and attempts to get support from the incumbent firm. However, the incumbent firm often displays indifference or resistance to the new idea. Subsequently, the individual behind the radical, innovative idea secures capital through alternative means, such as venture capital, and launches their own business to develop the idea further. In certain instances, the new business exceeds expectations, resulting in a decline in sales for the incumbent firm and posing a significant threat to its market position and even its existence. The emerging business reshapes the market landscape and undergoes rapid growth, quickly ascending to become the new market leader.

However, as time passes and the once-new business transitions into an established incumbent, a familiar pattern emerges: a new individual with a radically innovative idea faces rejection from the new incumbent, mirroring the previous cycle. Chandy and Tellis (2000) originated the term 'incumbent's curse' to describe this phenomenon, a concept that finds consistent support in recent research across various domains including technology, management, innovation, economics, and marketing (Ghemawat, 1991; Henderson, 1993; Utterback, 1994; Christensen, 1997). This stands as one of the prominent challenges confronting large incumbents today (Christensen, 1997). It particularly affects large incumbents as markets evolve rapidly, with a

disproportionately significant number of market-changing innovative ideas emerging from smaller, new market entrants (Scherer, 1980).

While numerous companies, such as Blockbuster and Kodak, have fallen victim to the incumbent's curse by failing to adopt market-changing innovations, there are also examples of companies that have successfully pivoted to different technological markets than their original ones. For instance, Mergenthaler Linotype endured three major technological revolutions (Tripsas, 1997), GKN initially operated as a coal mining company but now thrives in the aerospace industry, and The Tandy Corporation, once a producer of leather goods, has transformed into a retailer of electrical goods (O'Reilly & Tushman, 2008). These cases illustrate how established organizations can successfully pivot their focus and adapt to market changes.

Chandy and Tellis (2000) emphasize that while incumbent firms indeed face challenges when pursuing radical innovation, there is also evidence indicating that they are catching up compared to smaller firms. It is evident that interest in radical innovation within incumbent firms is rising, but the question remains as to why some incumbents succeed while others fail. For example, Société Suisse pour l'Industrie Horlogère, a dominant mechanical watch producer, did not introduce quartz watch technology until later in the lifecycle, resulting in a decrease in their market position. In contrast, another incumbent firm in the watch market, Hattori-Seiko, was the first to introduce quartz watches (Chandy & Tellis, 2000). This example demonstrates how incumbents can occupy different ends of the spectrum, either by disregarding or actively investing in radical innovation.

Beyond ensuring long-term survival, there are several reasons for incumbents to enhance their innovation capabilities beyond incremental or sustaining innovations associated with their core products and offers. One such reason is to drive economic growth within the industry and for the incumbent itself. As markets and industries mature, there is a risk of stagnation in economic growth and a decline in incumbents' market positions (Utterback, 1994). Christensen (1997) suggests that actively exploring innovations beyond the incumbent's core products and offerings is key for economic growth. Furthermore, growth contributes to heightened satisfaction among the firm's shareholders and fosters societal welfare through increased job opportunities (Christensen, 1997). Another reason stems from a study conducted by Nagji and Tuff (2012), indicating that diversified industrial companies allocating 70% of their innovation efforts to core offerings, 20% to adjacent-to-core, and 10% to breakthroughs and transformational initiatives typically outperform their counterparts who predominantly focus solely on their core offerings. These companies exhibited a price-to-earnings premium of ten to twenty percent because of this strategic allocation of innovation efforts.

1.2 Problem Discussion

Despite the well-documented benefits for incumbent firms that expand their innovation capabilities beyond sustaining and incremental improvements to their core products, many firms struggle in this endeavor. Explanations for this can be found in theories such as Burns and Stalker's (1961) organic and mechanistic organizational structures. According to Burns and Stalker (1961), large, well-established firms (incumbents) often tend to adopt a mechanistic organizational structure. This structure is characterized by standardization, formalization, and hierarchical control. As firms expand, they often adopt a more mechanistic structure to reduce coordination costs, handle complexity, and boost efficiency (Burns & Stalker, 1961). While this structure facilitates incremental or sustaining innovation effectively, it can also lead to increased rigidity, making it difficult to adapt to larger changes such as disruptive, radical, or transformational innovations (Burns & Stalker, 1961).

In contrast, smaller firms, like startups, typically gravitate towards an organic structure. The organic structure is marked by flexibility, decentralization, and minimal formalization. This structure fosters rapid adaptation and facilitates capabilities for radical, disruptive, or transformational innovations. However, the organic structure may pose challenges in efficiently generating numerous incremental innovations (Burns & Stalker, 1961).

However, being an incumbent firm that adopts a more mechanistic structure is not necessarily an issue. Structuring in a mechanistic manner likely facilitated their rise to incumbency initially by reducing costs and enhancing efficiency. The problem primarily stems from market dynamics. As long as the market remains stable and predictable, organizing in a mechanistic way likely provides the most competitive advantages (Burns & Stalker, 1961). However, once market dynamics shift to become more unstable and uncertain, continuing to operate and organize in the same mechanistic manner may pose a risk of the incumbent’s curse. This indicates that the benefits of incumbents embracing more organic behaviors to foster radical, disruptive, or transformational innovations become more apparent when the market is transitioning towards greater uncertainty and instability.

Another theory that elucidates why incumbents might encounter difficulties innovating beyond incremental or sustaining innovations to their core products is Christensen's (1997) theory, “The Innovator's Dilemma”. The theory explains that incumbent firms tend to get caught up in sustaining innovation because they extensively rely on their existing customer base and historically successful offerings and processes. This means incumbents typically focus on improving their existing products and offerings for their existing customers. These improvements are called sustaining innovations because they aim to enhance customer value and sustain the market position (Christensen, 1997).

Disruptive innovation, on the other hand, addresses unknown markets and customer needs, making it inherently difficult to foresee and develop. The decision-making and investment in sustaining and disruptive innovation take on very different forms. For sustaining innovation, managers lean on existing industry knowledge and profit calculations to make the right decisions. Developing a disruptive innovation, however, is a much more complex process that involves high uncertainty (Christensen, 1997). Developing something disruptive may even require the willingness to cannibalize historically successful offerings or processes (Schumpeter, 1942).

However, some theories emphasize how incumbents may possess advantages and established capabilities to develop more radical or disruptive innovations (Chandy and Tellis, 2000). Chandy and Tellis (2000) propose that numerous disruptive and radical innovations actually originate from large incumbent firms. However, why do some incumbent firms still encounter challenges described by the incumbent's curse and the innovator's dilemma, despite extensive research explaining these phenomena and providing managerial insights? Moreover, as mentioned, some theories emphasize incumbents' advantages over startups in developing radical and transformational innovation. Yet, it remains challenging for some incumbents to effectively leverage these advantages. Consequently, it is intriguing to investigate the specific challenges they face. This problem discussion sets the stage for the purpose and research questions of this study, which will be described in the next section.

1.3 Purpose and Research Questions

There is an abundance of research attempting to explain why incumbents struggle with developing radical, disruptive, or transformational innovations and how to overcome these challenges (e.g., Chandy and Tellis, 2000; Utterback, 1994; Nagji and Tuff, 2012). Even though some of these theories were proposed more than 20 years ago, the problems some incumbents face have persisted. One could even argue that in recent years, markets have become even more dynamic, and the barriers to entry have decreased for new firms, suggesting that the problem of the incumbent’s curse is more relevant than ever. Additionally, there appears to be a need for more in-depth case studies investigating how these challenges manifest in practice, thereby increasing the number of real-life examples and connecting theoretical concepts to practical applications.

To help practitioners in incumbent firms overcome the incumbent’s curse amid shifting market dynamics, it's crucial to understand the challenges they face when pursuing non-core innovation. This thesis aims to investigate such challenges through a case study of a large multinational technology firm recognized as an incumbent. This firm is active within the automotive industry which has been conservative but is shifting to a more dynamic environment (Atkinson, 2017). Therefore, this company is suitable for investigation since market shifts in this context make innovative capability a particularly urgent topic. Specifically, this case study focuses on a department

responsible for product strategy. Consequently, the following research question has been investigated.

RQ: What are the primary challenges faced by a product strategy department at a multinational incumbent technology firm when pursuing non-core innovation?

To address the research question, a qualitative approach was employed, conducting interviews with employees from the case department. It is crucial to emphasize that this method of data collection captures only the perceived reality of these employees, thereby characterizing the study as a perception study. As a result, the challenges identified stem from employee perception, providing the foundation for further analysis.

Various theories and terms exist to describe different types of innovation. In this study, the definitions of radical, transformational, adjacent, and disruptive innovation (Christensen, 1997; Nagji and Tuff, 2012; Henderson and Clarke, 1990) are collectively categorized as non-core innovation, while incremental and sustaining innovation are classified as core innovation. These different innovation terms are elaborated and defined further in Chapter 2.3.

1.4 Context of This Study

Due to time constraints and the complexity of its large organizational structure, this study focuses on a single department within the case company, responsible for product strategy, referred to as the case department. Consequently, only the challenges faced by the case department were investigated. This focus means that perspectives from other units within the case company that may work with non-core innovation are excluded in this study. As a result, there may be a lack of a holistic view of how the case company handles non-core innovation, potentially missing out on other challenges or effective non-core innovation strategies employed elsewhere. The implications of this focus on only the case department and its impact on the findings will be further discussed at the end of this thesis. Further, a more thorough description of the case company's context and the case department's operations are presented in Chapter 4.

For the purposes of this study, non-core innovation within the case department is defined as a product or service lacking an existing product strategy. This definition enables contextualization of the theoretical framework within the practical operations of the case department. Conversely, the term "core product" in this study refers to those products for which the case department has established a product strategy. Consequently, core innovation entails incremental or sustaining innovation related to those core products. However, it's important to note that this definition of core products does not necessarily imply exclusivity within the entire company.

2. Theoretical Framework

In this chapter, the theoretical foundation of this study will be highlighted. The chapter begins with a focus on the current dynamics within the automotive industry and how market maturity can lead to shifts of S-curves. Thereafter, different innovation types and what possible challenges large incumbent firms face when trying to drive disruptive innovation will be covered.

2.1 The Automotive Industry and its Future

The automotive industry encompasses all companies and processes engaged in the production of motor vehicles, comprising essential components like engines and bodies, but excluding items such as tires, batteries, and fuel. Its primary outputs consist of passenger automobiles and light trucks, including pickups, vans, and sport utility vehicles. Commercial vehicles, such as delivery trucks and large transport trucks (commonly referred to as semis), hold significance within the industry, but they represent a secondary focus (Binder and Rae, 2024).

According to Atkinson (2017), the automotive industry is very mature and conservative. The automotive industry is influenced by a complex interplay of safety and environmental regulations, evolving consumer preferences, and cost and price limitations. Historically, a combination of regulatory frameworks, operational costs, and entrenched incumbents has protected the industry from extreme disruptions. Moreover, the industry has remained vigilant against emerging market challenges.

However, according to Atkinson (2017), ongoing trends such as electrification, connectivity, and automation pose significant challenges that may accelerate disruptive changes in the automotive sector. These trends could lead to rapid transformations, challenging established norms and requiring industry stakeholders to adapt accordingly. Some examples of the new paradigms include shorter development cycles, automated and connected operations, as well as new models of ownership and usage. Potential disruptors in the industry may include companies like Tesla, Apple, Google, and Uber (Atkinson, 2017).

In summary, the automotive industry's ongoing shift from its historically conservative nature towards more uncertain dynamics, driven by trends such as electrification, connectivity, and automation, underscores the importance of studying companies within this sector. This study is particularly relevant as companies like Tesla have the potential to heighten the risk of market disruption, making it more critical to better understand non-core innovation capabilities.

2.2 The S-curve and the Connection Between Mature Markets and Innovations

The theory of S-curves describes the product life cycle and the origins and evolution of radical innovations. The theory originates from several researchers within the field of technology management (Vernon, 1966; Utterback and Abernathy, 1975; Sahal, 1985; Foster, 1986; Utterback, 1994). Foster (1986) describes the initial phase of the S-curve to represent the first investments into developing a new product, process, or technology. During this phase, progress is typically slow. Subsequently, with additional investments infused, the pace of development undergoes a significant acceleration, leading to substantial performance enhancement within a short timeframe. However, as the S-curve approaches its culmination, pouring more investments no longer yields the same magnitude of performance increase as observed in the earlier phase. Instead, the final segment of the S-curve is characterized by increasing challenges and costs associated with further performance enhancement. The sequence of the three growth phases: slow, exponential, and constrained, can be visually depicted through the S-curve (see Figure 1).

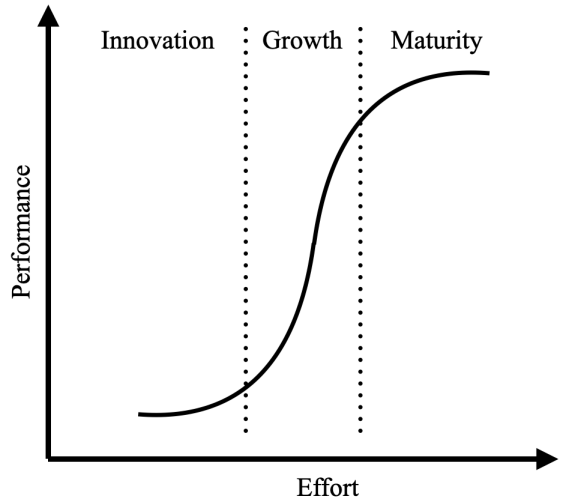

Figure 1. The S-curve and its phases, inspired by (Foster, 1986).

According to Foster (1986), when a product, process, or technology has reached the culmination of the S-curve, the only means to augment performance is by introducing a new technological concept, thereby initiating a new S-curve. The new technological concept still addresses the same customer needs, however, surpassing the performance levels achievable with the previous technology. This implies that the new S-curve is superimposed upon the initial one. The transition between the curves is not smooth but rather discontinuous. The beginning of the new S-curve often begins with a lower performance than the end of the old S-curve (see Figure 2).

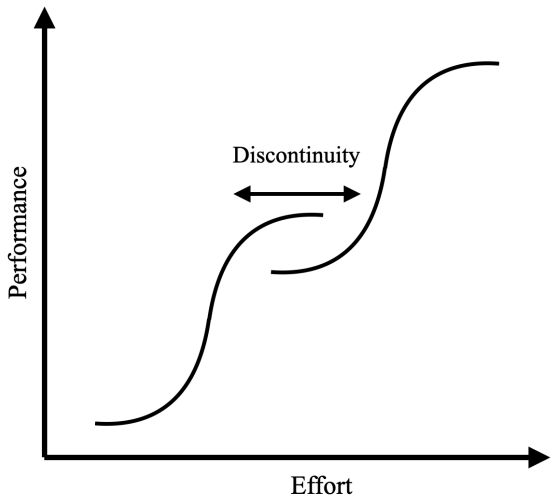

Figure 2. The discontinuity between two S-curves, inspired by (Foster, 1986).

Foster (1986) underscores that the transitional phases between S-curves represent survival traps, necessitating a deep understanding of technological fundamentals, finance, and marketing strategies to navigate successfully. However, Foster (1986) also highlights that a company successfully exploiting a new technology enjoys what is termed the "attacker's advantage," as they operate with fewer constraints compared to a company working within the end phase of the S-curve. Furthermore, a company working within the end of the S-curve might have grown too comfortable, influenced by long-standing economic success and managerial practices shaped by previous technological paradigms.

Foster (1986) emphasizes that there is no simple answer to how companies should react. Historically, companies have taken different approaches: some play it safe by sticking to their existing business and investing modestly in new technologies. Others defend themselves by resisting technological changes and only adjusting prices. Meanwhile, some companies abandon the old technology and leap onto the new S-curve. Despite the absence of a straightforward answer to this question, one crucial fact remains: for a company to survive in the long term, it must eventually transition onto the new S-curve, or risk decline and becoming a relic of the past.

2.3 Different Types of Innovation

Existing theories provide numerous definitions for various types of innovation, yet reaching a clear consensus remains challenging. This reason may be that the landscape is filled with terms that describe similar innovation phenomena with ambiguous boundaries, leading to a lack of universally agreed-upon definitions among researchers. As a result, distinguishing between these innovation terms can be complex. This chapter will explore different innovation terms to clarify their distinctions and similarities.

2.3.1 Sustaining Innovation vs. Disruptive Innovation

Christensen (1997) divides innovation into two groups; sustaining and disruptive. According to Christensen et al. (2015), sustaining innovation involves improving products that are already perceived as good by an incumbent's existing customers. Examples of sustaining innovations include the addition of a fifth blade to a razor, improvements leading to clearer TV or computer pictures, and improvements in the aerodynamics of cars or trucks. These improvements can range from major breakthroughs to incremental advancements. However, the common thread among them is their ability to enable companies to sell more products to their most profitable customers. This is one of the key distinctions between disruptive and sustaining innovation. Sustaining innovation focuses on serving the needs of existing customers of the incumbent, while disruptive innovations are often initially perceived as inferior by those same customers. Customers are initially hesitant to switch to a new offering solely based on its lower price, a characteristic often associated with disruptive innovation. Instead, they wait until the quality of the new offering meets their needs. Once this occurs, customers swiftly adopt the new offering, often at lower prices. This dynamic is how disruptive innovations drive prices down in a market. Hence, disruptive innovations initially cover unknown markets and customer needs, making them inherently difficult to foresee and develop.

Christensen et al. (2015) emphasize that there are often misunderstandings, and that the theory of disruptive innovation is frequently misapplied. Such misapplications can pose challenges as they may result in the incorrect management of innovation. A notable example is Uber, whose breakthrough is commonly labeled as a disruptive innovation within the taxi market. Upon closer examination of Uber's strategy, it becomes evident that they initially established a foothold in the mainstream market before targeting historically overlooked segments, often referred to as the low end of the market. A disruptor, on the other hand, would typically follow the opposite trajectory, starting in the low end and gradually moving upward to capture the mainstream and high-end segments. Moreover, Uber's strategy could also be considered a form of sustaining innovation, as they have enhanced the taxi service by simplifying booking, payment, and quality assurance processes. Existing customers of the incumbents might argue that Uber's services are better than those of traditional taxi firms but not necessarily inferior.

2.3.2 Managing Disruptive Innovation

Christensen et al. (2015) underline the essential to apply the theory of disruptive innovation correctly. This is because the challenges associated with competition from sustaining innovation, disruptive innovation, and other incumbent competitors attempting to attract core customers are distinct and require tailored management approaches. For example, small competitors gradually intruding on your business periphery should often be overlooked, unless they demonstrate a disruptive trajectory. However, it is not always easy to distinguish true disruptive innovation. Even

executives with a good understanding of the theory often overlook subtle nuances when making strategic decisions.

Christensen et al. (2015) highlight the four most common misunderstandings of disruptive innovations. The first one is that disruption is a process rather than a product or service at one single point in time. The gradual evolution of disruptive innovation over time, starting at the low end of the market, is one reason why incumbents often overlook potential disruptors. For example, the case of Netflix and Blockbuster illustrates this point. If Netflix had initially targeted Blockbuster's mainstream segment instead, Blockbuster might not have ignored Netflix as they did. This could have potentially led to a successful counterattack by Blockbuster.

The second point Christensen et al. (2015) highlight is that disrupters often build business models that are very different from those of incumbents. An example of a firm using a business model to effect a disruption is Apple. When Apple introduced the iPhone in 2007, it initially represented a sustaining innovation, as it targeted the same customer base as other incumbents, relying on product superiority for its success. The subsequent growth of the iPhone, however, is better explained as a disruption, not of the phone itself, but rather of the laptop as the primary means of accessing the internet. This was accomplished through a new business model that enabled a network linking application developers with phone users.

The third aspect that often gets overlooked or misunderstood according to Christensen et al. (2015), is that some disruptive innovations succeed, others do not. This involves the misconception that many focus solely on the achieved result. Success is not inherent in the definition of disruption. It means that following a disruptive path does not guarantee success, nor do all successful endeavors originate from a disruptive path. The theory of disruptive innovation provides limited guidance on how to approach the low end of the market, aside from suggesting that the odds might be higher due to less competition. If every successful company is viewed as a disruptor, there is a risk that their diverse paths to success are misconstrued as universal insights for achieving success. This could lead managers to blend disparate behaviors when crafting strategy, resulting in inconsistencies that are unlikely to yield the desired results.

The final aspect highlighted by Christensen et al. (2015) is that the mantra "disrupt or be disrupted" can mislead companies. While companies need to respond to ongoing disruptions, they don't necessarily need to overreact and abandon their still-performing businesses. Instead, the theory recommends that companies invest in sustaining innovation to strengthen their relationship with their core customers. Additionally, they should establish a separate division solely focused on pursuing growth opportunities. While this approach may lead to the new division gradually attracting customers from the core as it grows, the company shouldn't necessarily prioritize solving this issue before it becomes a significant problem.

It is empirically evident that incumbents are better at sustaining innovation than entrants while entrants are better at disruptive innovation (Christensen et al., 2015). The explanation for this is that incumbents focus on their existing customers and their preferences. Over time, this customer-centric focus becomes deeply ingrained in their internal processes, presenting challenges for managers when allocating resources toward disruptive innovation. One such challenge is that disruptive innovations typically yield lower profitability initially compared to the incumbent's core business, making it difficult to justify the investment. This further reinforces the rationale for establishing a separate division approach for growth opportunities.

It could also be argued that anticipating and engaging in disruptive innovation is a necessary part of the recipe for long-term success. According to Chandy & Tellis (2000), the maturing of a market increases the risk of disruptive innovation turning the industry upside down. But there is also an argument to be made about the possibility of increasing growth by developing and evaluating disruptive ideas. With the entry of disruptive innovation on the market, a new performance trajectory is created that can render the previously established solution incomplete by customers. A new performance trajectory typically results in long-term profit margins that are higher than previously, and a first-mover advantage within the initial phase of market introduction (Rasool et al., 2018). This argues for the possible benefits of engaging in disruptive innovation besides the growing risk of becoming outdated. Linking this to the previous section on the maturity of the automotive industry further underscores the importance for companies within the automotive industry, and other mature industries, to engage in exploring disruptive innovations in some capacity.

2.3.3 Radical, Incremental, Architectural and Modular Innovation

Other innovation terms, such as incremental, radical, architectural, and modular innovation, are sometimes used interchangeably with "sustaining and disruptive innovation." However, precisely distinguishing between these innovation frameworks can be challenging, as they are often defined differently within the research literature. This implies that there are multiple ways to categorize and explain different types of innovation. For instance, Christensen (1997) categorized innovation into two types in his framework of sustaining and disruptive innovation, whereas Henderson and Clarke (1990) proposed a framework of four types of innovation: incremental, radical, architectural, and modular. See how Henderson and Clarke (1990) explain the various types of innovation in Table 1.

Table 1. Henderson & Clarke's (1990) definitions of the four types of innovation in their framework.

Radical innovation	"establishes a new dominant design and, hence, a new set of core design concepts embodied in components that are linked together in a new architecture." (p. 11)
Incremental innovation	"refines and extends an established design. Improvement occurs in individual components, but the underlying core design concepts, and the links between them, remain the same." (p. 11)
Architectural innovation	"innovation that changes only the relationships between them [the core design concepts]" (p. 12)
Modular innovation	"innovation that changes only the core design concepts of a technology" (p.12)

2.3.4 Core, Adjacent, and Transformational Innovation

The landscape of innovation terminology extends beyond the ones previously discussed. Another framework categorizes innovation into three main types: core, adjacent, and transformational innovation (Nagji and Tuff, 2012). Nagji and Tuff (2012) describe core innovation as optimizing existing products for existing customers. Adjacent innovation involves expanding the company's business into "new to the company" areas. Lastly, transformational innovation is characterized by the development of breakthroughs and new offerings for markets that do not yet exist. It could be argued that core innovation shares similarities with the concept of sustaining innovation, while transformational innovation exhibits similarities with disruptive innovation. Adjacent innovation, on the other hand, could be considered to fall somewhere in between these two extremes. While there are similarities between the two frameworks, there are also differences. These differences extend to the theories themselves and influence how innovation is managed according to each theory.

Nagji and Tuff (2012) emphasize that their research findings suggest companies allocating 70 percent of their innovation investments to core, 20 percent to adjacent, and 10 percent to transformational innovation are often outperforming their peers, typically enjoying a price-to-equity premium of 10 to 20 percent. This ratio could alternatively be described as allocating 70 percent to low-risk endeavors, 20 percent to moderately uncertain ventures, and 10 percent to high-risk initiatives. The research also indicated that companies adhering to this ratio received an inverse corresponding return on innovation, meaning that 70 percent came from transformational innovation, 20 percent from adjacent innovation, and 10 percent from core innovation.

Moreover, this ratio has proven attractive to the capital market as it signals a favorable balance between short-term, predictable growth and long-term investments.

However, it's important to note that there is no universal golden ratio applicable to all companies. Instead, each company must find its appropriate balance based on its unique operating circumstances. According to Nagji and Tuff's (2012) research the 70-20-10 ratio provides guidance for a diversified industrial company, but a leading consumer goods company might find greater benefit in adopting an 80-18-2 ratio. Even if transformational initiatives are never the dominant activity, Nagji and Tuff (2012) emphasize the importance of engaging in such activities for the company's long-term health. The challenge is though for companies to recognize that the different types of innovation require unique management in order to succeed. A core initiative cannot be managed the same as a transformational initiative. The are some important aspects to consider when running a transformational initiative.

According to Nagji and Tuff (2012), the first aspect is the necessity of talent possessing a diverse set of skills, unafraid to tackle ambiguous data. There's a demand for a discovery and concept development process that uncovers social needs driving business changes, underlying market trends, and technology development. In core and adjacent initiatives, analytical skills play a more crucial role since there is a need to understand customer and market data and transform them into offering enhancements. Skills required for transformational initiatives encompass those possessed by scenario planners, designers, cultural anthropologists, and analysts comfortable with handling ambiguous data. The second challenge involves keeping teams separate from core operations when executing transformational initiatives, whereas those handling core and adjacent initiatives should be integrated into the existing business. The third one is that funding for transformational initiatives should be separated from the "normal" budget cycle. The fourth challenge relates to pipeline management. Typically, initiatives and projects are tracked through a stage-gate process, where they receive either a green or red light at the gates to progress to the next stage. This process works well for core and adjacent initiatives since they are relatively straightforward to evaluate at each stage, with readily available customer feedback and a clear indication of willingness to pay.

However, obtaining customer feedback and gauging willingness to pay for something the world has never seen before, and which customers may not even know they need or want, would be considerably more challenging. Hence, applying a stage-gate process for a transformational initiative can be risky because it's impossible to predict future sales of such an initiative, potentially leading to the rejection of promising ideas before they're sufficiently explored. Those should rather be managed through a non-linear process. The final aspect to consider is metrics. Financial metrics are effective for informing management decisions in core and adjacent initiatives. However, for transformational initiatives, relying on financial metrics in the early phases can

prematurely halt the initiatives. Instead, non-economic metrics should be given greater consideration in the early phases of a transformational initiative.

2.3.5 Summary of the Different Innovation Types

As mentioned in earlier chapters, various innovation terms and frameworks exist, each offering unique perspectives on how innovation is defined and managed. It's important to note that there are many more innovation terms beyond those covered in this study. While these terms share similarities, they also exhibit differences. However, a common thread among them is their division of innovation on a scale of newness or from smaller to extreme changes in offerings. Another common thread is that they all emphasize the importance of effectively managing various types of innovation to uphold a company's health. Each type necessitates unique management approaches for success. However, it's common for companies to manage all their innovation initiatives in the same way. The theories also highlight that while managing all types of innovation can be challenging, it is not impossible. The following sections will therefore focus more on why it can be challenging to manage all types of innovation.

2.4 Organizational Structures Effects on Innovation

The way an organization coordinates and structures itself can profoundly impact its capacity for innovation. Different organizational structures may shape the kinds of innovations in which the organization thrives. This chapter will explore various organizational structures and their effects on innovation.

2.4.1 Mechanistic and Organic Structures

According to Burns and Stalker (1961), there are two main types of management and organizational structures: mechanistic and organic. The mechanistic structure is defined by a hierarchical setup, emphasizing strong specialization and centralized decision-making, with communication typically following vertical lines. Moreover, it is characterized by high levels of formalization and standardization, facilitating heightened efficiency within the organization. Furthermore, roles within the mechanistic structure tend to be specialized and remain consistent over time. In contrast to the mechanistic structure, the organic structure is notably less hierarchical, formal, and standardized. Roles within the organic structure are less specialized and are often redefined over time. Communication occurs within a more complex network rather than through vertical lines (Burns, 1963). Burns and Stalker (1961) emphasize that the two structures are suitable for different types of operating environments. The mechanistic structure is suitable for stable and predictable environments where efficiency plays a crucial role in gaining a competitive advantage. However, this type of structure is often considered a hindrance to fast adaptation in rapidly evolving markets. The organic structure is deemed more suitable for organizations operating in rapidly evolving markets. This is partly due to less formalization and decentralized decision-making, as well as roles being less rigid and more flexible compared to the mechanistic structure.

According to Burns and Stalker (1961), neither the mechanistic nor the organic structure can claim superiority over the other. Instead, these two structures represent opposite ends of a spectrum, and it is the operational context of organizations that determines which structure is most suitable. For instance, startups frequently lean towards adopting a more organic structure, which makes them flexible and good at adapting to market dynamics. This inclination also amplifies their capacity for pioneering radical innovations. The organic structure's lower level of formalization and complex communication networks are also easier to manage in smaller organizations. This is one reason why larger organizations tend to gravitate towards the mechanistic structure. To reduce coordination costs in large organizations, formalization and standardization are frequently implemented. While this approach enhances efficiency and facilitates the delivery of numerous incremental innovations to the market, it can also hinder large organizations seeking to introduce radical innovations. See Figure 3 for a summary of the characteristics of mechanistic and organic organizational structures.

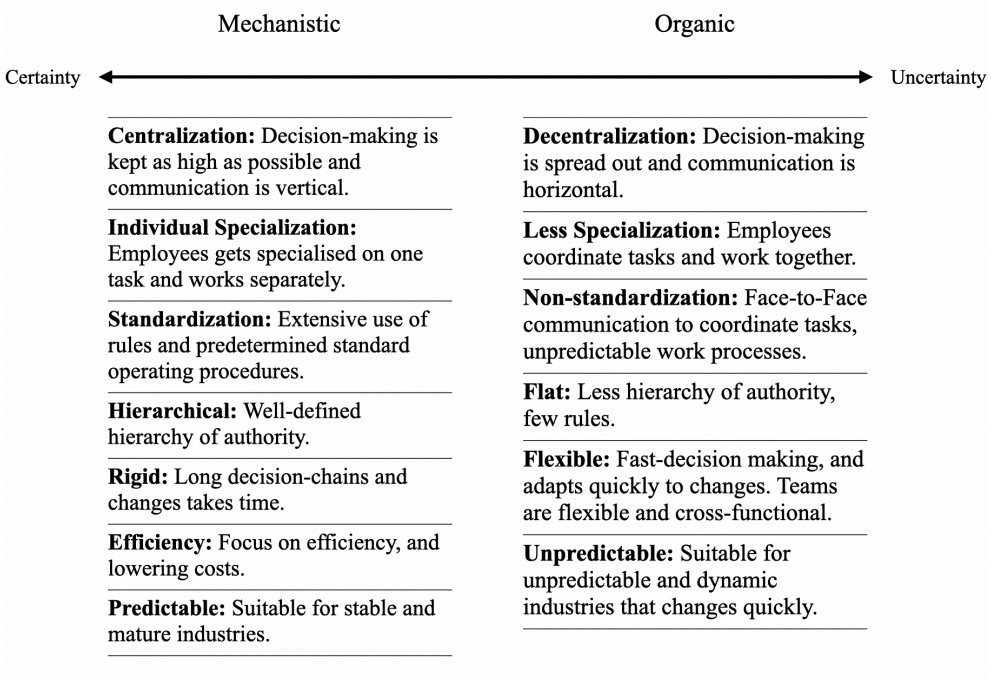

Figure 3. Mechanistic vs Organic Organizational Structure (Burns & Stalker, 1961).

2.4.2 Firm Size and Theory of Inertia

Another theory that aligns with Burns and Stalker's theory of mechanistic and organic structures is the theory of inertia. According to Tornatsky and Fleischer (1990), as a firm grows, it becomes more prone to the forces of bureaucratic inertia. The primary factor driving this phenomenon is the number of employees within a company. As the workforce expands, the task of managing it becomes increasingly complex. Consequently, organizations implement extensive administrative personnel and formal

protocols to simplify management processes and communication channels, mitigating the inherent complexities (Terrien and Mills, 1995). While the implementation of these rules and administrative personnel may reduce complexity and enhance efficiency in developing products aligned with current technology for the existing customer base, they may concurrently hinder the firm's ability to quickly respond to new radical technologies (Kimberly, 1976). This occurs because innovative employees in large firms often face numerous administrative and bureaucratic layers to gain approval for their radical ideas. These layers of approval increase the likelihood of ideas being screened out and demand additional time and effort from the employee's seeking approval. Consequently, this process often distracts employees' focus away from creative work (Sherer, 1980). Another problem connected to all the layers within a large organization is that it implies more levels of screening and group decision-making, which dilute the contributions of individuals. Subsequently, the innovators are possibly less able to get rewarded for their efforts, resulting in fewer incentives to do so (Schumpeter, 1942).

2.5 Innovation Challenges for Incumbent Firms

Previous chapters have highlighted how firms' sizes and organizational structures can affect the firms' abilities to innovate within the different types of innovations. The theories have pointed toward that large incumbent firms are good at sustaining or incremental innovation, but struggle with driving radical or disruptive innovations. This chapter will go through the specific challenges large incumbent firms face when they try to adopt radical or disruptive innovations.

2.5.1 Innovator's Dilemma

As partly explained in Chapter 2.2.1 about disruptive and sustaining innovation, incumbents often face what Christensen (1997) called the Innovator's dilemma. The Innovator's dilemma can be described as successful large incumbents often getting stuck in developing sustaining innovation rather than disruptive innovations. This will eventually cause the incumbent's offering to become obsolete as its development is getting closer to the end of the S-curve. There's a risk of obsolescence as entrants have gradually transitioned from niche markets to the mainstream and high-end markets with their disruptive innovative technology, offering the same customer benefits but often at a superior customer value for a lower price. Therefore, the incumbent's customers will eventually adopt the new entrant's offering instead. The reason incumbents tend to focus on sustaining innovation rather than disruptive ones is that their current customers typically don't request or recognize the need for a new disruptive innovation; they often prefer product enhancements instead. Additionally, there's significant pressure for yearly sales growth from both internal and external stakeholders, such as shareholders. This makes it challenging for incumbents to divert resources away from their established products, as investing in something new is uncertain in terms of potential sales and would require additional resources.

Christensen (1997) highlights that the incumbent can solve this dilemma and succeed against disruptive technologies by mainly following four strategies. The first approach involves developing disruptive technologies targeted at the "right" customers, which might not necessarily be the incumbent's existing customer base. The second approach is to establish a separate, autonomous organization dedicated to developing disruptive technology. This entity can pursue small wins and build its own customer base without the pressure of meeting extensive yearly sales targets. The third strategy is to embrace a culture of frequent and early failure to identify the most promising disruptive technologies. Finally, the fourth approach entails allowing the separate disruptive organization to access the firm's resources as needed, while also ensuring that the firm's processes and values do not influence the separate disruptive organization.

2.5.2 Perceived Incentives, Organizational Filters, and Organizational Routines

According to Chandy and Tellis (2000), there are three major reasons why incumbents introduce radical innovations less frequently compared to smaller nonincumbent firms. Those are perceived incentives, organizational filters, and organizational routines.

Perceived incentives

Conner (1988) highlights that incumbents typically perceive smaller incentives for introducing radical innovation compared to non-incumbent firms. The rationale behind this is that incumbents already have a stable income stream from their existing offerings, which are built on established technology. In contrast, non-incumbents lack such stability and therefore have a greater incentive to introduce radical innovations in the short term. This is because there's a chance that such innovations may outperform existing products, rendering them obsolete and allowing the non-incumbents to take over the income stream from the incumbents (Reinganum, 1983).

Organizational filters

Henderson and Clarke (1990) suggest that incumbents often possess an organizational filter, a cognitive structure that screens out anything unrelated to the incumbent's primary focus. While this filter enhances the incumbents' efficiency within their primary focus, it also inhibits their effectiveness in pursuing radical innovations. The filters compel managers to consistently aim to maximize the utility of current technology for existing customers. Consequently, incumbents excel at listening to customers and adapting offerings according to their preferences. However, this strong focus on existing customers and improving the current technology often inhibits their ability to identify, markets, and develop radical innovations that their customers may not even realize they want or need.

Organizational routines

Henderson and Clarke (1990) also suggest that incumbent firms are constrained by organizational routines that hinder their ability to innovate radically. These routines are

typically optimized for efficiently and repetitively producing large volumes of the current product. As a result, they are not suited for developing radical innovations, as the technology required for such innovations would require significantly different routines. Nelson and Winter (1982) emphasize that adopting new routines suitable for radical innovation would be costly, difficult, and risky, which may explain why managers are often reluctant to do so. Furthermore, the current routines of an incumbent were those that helped them achieve their current success. This may entail a reluctance to change those routines that have historically led to success (Nelson and Winter, 1982).

3. Method

This chapter describes the methodology adopted for the study. It begins with a description of the research strategy and design, followed by an account of the data collection and analysis procedures. The chapter concludes with an assessment of the research quality and ethical considerations.

3.1 Research Strategy & Design

This thesis employs a qualitative approach to address the research question. As suggested by Bell et al. (2022), a qualitative approach is more suitable when tackling exploratory research questions. The objective of this study is to understand the how and why, to generate theory rather than test it, for which a quantitative approach would be more appropriate. Specifically, this study aims to investigate the primary challenges an incumbent firm faces when pursuing non-core innovation. The qualitative approach was therefore considered suitable due to the research question's exploratory nature. Further, the study applied a case study approach to a single organization. The studied case company was a multinational technology firm operating within the automotive industry, recognized as an incumbent. The study was specifically conducted within a department at the case company responsible for product strategy. According to Bell et al. (2022), the case study approach is generally a more intensive investigation that allows for an in-depth analysis of the research problem at hand. Hence, it was deemed suitable for addressing the research questions and objectives of this study.

Furthermore, the study's focus has evolved during the project's timeline. The initial phase involved defining the study's scope, followed by a parallel initial literature review and unstructured interviews with the project sponsor at the case company. Subsequently, research questions were formulated. These steps underwent multiple iterations due to the authors' initially limited knowledge of the case company's operations and the complex nature of the research problem. The following stages included data collection that consisted of semi-structured interviews, literature review, and document analysis. The research questions were revised in response to additional information and unexpected findings. The final stages involved data analysis in the form of thematic analysis, followed by data validation. Since the focus of the study has evolved over time Bell et al. (2022) suggest that the study has applied an abductive approach. Figure 4 illustrates the adopted research strategy.

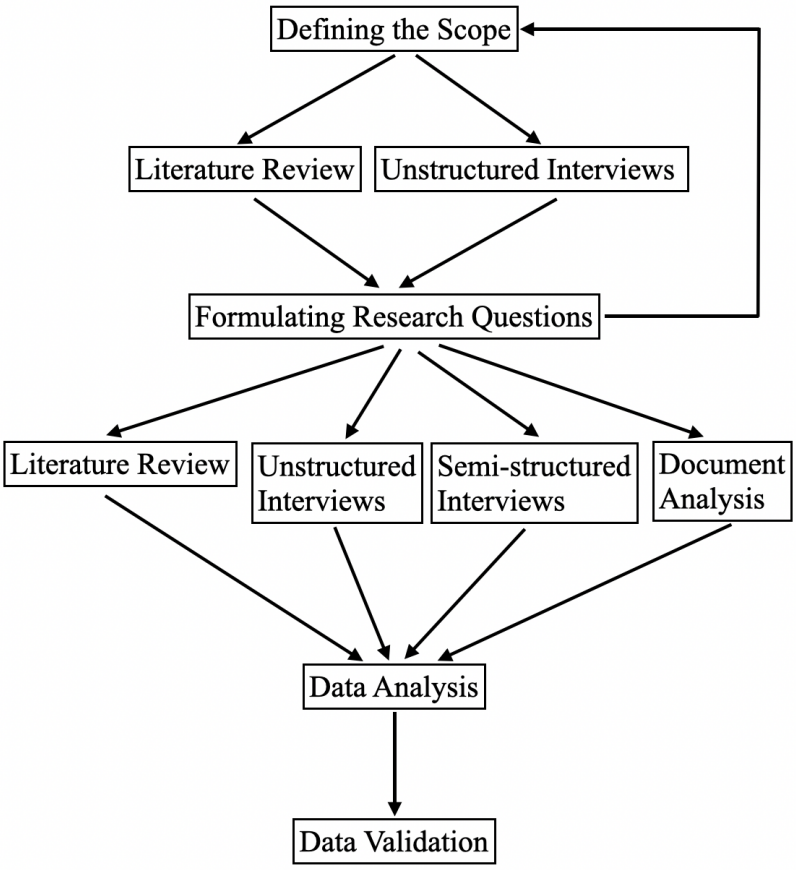

Figure 4. The research design.

3.2 Data Collection

The data collection in this study was carried out through, literature reviews, unstructured interviews and semi-structured interviews, and documentation analysis. The primary data source was interviews, while secondary data included literature reviews and documentation analysis. Data validation was also conducted with the study's contact person at the case company.

3.2.1 Literature Review

According to Bell et al. (2022), a literature review involves collecting and analyzing existing research. In this study, a narrative review was conducted to gain a deeper understanding of the subject and to provide the initial insights necessary for proceeding with the research. Relevant literature was collected iteratively as the scope of the study evolved. The collection process was partially guided by recommendations from the supervisor, who suggested potentially relevant sources. Additionally, literature was gathered by searching several databases, including Scopus, Google Scholar, and the Chalmers Library. Keywords used in the searches included: innovation, non-core innovation, incumbent firm, innovation challenges, disruption, incumbent’s curse, radical innovation, and transformational innovation.

3.2.2 Interviews

According to Bell et al. (2022), interviews are one of the most common research methods for collecting empirical data in qualitative research. Interviews are a relevant data collection method when the aim is to seek an in-depth understanding of a complex and exploratory research problem. Interviews also enable the collection of a wide range of perspectives, contributing to a more accurate and nuanced view.

Unstructured interviews were conducted in the initial phases of the study, providing greater flexibility and a more comprehensive initial understanding of the case department. This interview format also facilitated the exploration of various perspectives and topics of interest, as steering questions could be formulated throughout the interviews (Brewerton & Millward, 2001). These initial interviews additionally served as guidance for formulating questions in the subsequent semi-structured interviews. However, the unstructured format can pose some challenges, as it relies on the willingness of interviewees to be open and share important information. In total three unstructured interviews were held. The interviewees for the unstructured interviews were selected through a purposive and non-probability sampling approach and consisted of individuals working in the case department. The purposive sampling approach facilitated the selection of relevant interviewees who were experts within the field, helping the authors gain a broad initial understanding of the case department. According to Bell et al. (2022), the purposive sampling approach is one of the most common approaches in qualitative research, allowing for sampling aligned with the study's aims to ensure the research questions can be effectively addressed.

Once a better understanding of the case department’s organization was achieved and the study's scope became more defined, semi-structured interviews were conducted. See Appendix A for the semi-structured interview template that was used when interviewing employees and Appendix B for the template used when interviewing managers, all working within the case department. The semi-structured approach enabled interviewees to share perspectives and information that were significant to them. This flexibility ensured that crucial perspectives were not missed, maintaining relevance to the topic, and allowing for comparability across different interviews. In addition to the purposive non-probability approach, the snowball approach was also utilized. This involved leveraging interviewees to suggest other potential participants highly relevant to our study, thereby enhancing the effectiveness of addressing the research question.

Table 2. Summary of all conducted interviews.

Interviewee	**Interview type**	**Duration**
Interviewee 1	Unstructured	60 min
Interviewee 2	Unstructured	60 min
Interviewee 3	Unstructured	70 min
Interviewee 4	Semi-structured	40 min
Interviewee 5	Semi-structured	70 min
Interviewee 6	Semi-structured	80 min
Interviewee 7	Semi-structured	70 min
Interviewee 8	Semi-structured	50 min
Interviewee 9	Semi-structured	40 min
Interviewee 10	Semi-structured	50 min
Interviewee 11	Semi-structured	45 min
Interviewee 12	Semi-structured	45 min
Interviewee 13	Semi-structured	40 min
Interviewee 14	Semi-structured	40 min
Interviewee 15	Semi-structured	35 min

3.2.3 Document Analysis

Analysis of company documents was conducted to collect data on the official descriptions of roles and responsibilities within the organization. Additionally, these documents were employed to comprehend the organizational structure and to understand the different areas of responsibility within the company. According to Bell et al. (2022), document analysis is highly valuable in case studies as it facilitates a deeper comprehension of the company structure and background. In this study, the primary purpose of document analysis was to collect the case company's own portrayal

of the organization, which was then compared with the descriptions provided by interviewees.

3.3 Data Analysis

The empirical data was analyzed by adopting a thematic approach, adhering to the guidelines proposed by Braun and Clarke (2006). The thematic analysis allowed for the identification of patterns and themes within the empirical data set. The themes emerged directly from the gathered data rather than being predetermined by existing theories, enhancing a data-driven approach. This enabled new insights to emerge and the possibility to capture different nuances (Braun and Clarke, 2006).

The thematic analysis process was divided into several phases. In the initial phase, the authors immersed themselves in the collected data to gain familiarity and a comprehensive understanding of its content and nuances. During the second phase, the researchers identified pertinent insights while eliminating irrelevant and non-useful data. Additionally, initial codes were established during this phase. This phase underwent iterative cycles to ensure a thorough examination of the data and to prevent overlooking any crucial information. As a result, 33 significant codes were identified, which later evolved into eight themes, presented in the result. Initially, codes were identified using Microsoft Excel, facilitating easy categorization, and sorting of the data which aided in the development of overarching themes.

The initial phase was conducted individually by the authors to mitigate the risk of bias and interference. Following this phase, the authors convened to discuss their individual analyses, aiming to achieve a unified perspective on the codes and themes. This approach facilitated an understanding of multiple viewpoints and effectively captured any disagreements or discrepancies. As a result of this, the initial codes could be transformed into the eight themes.

3.4 Research Quality

Bell and Bryman (2015) emphasize that in evaluating the quality of qualitative research, a relevant criterion to consider is trustworthiness. Trustworthiness involves four essential aspects: credibility, transferability, dependability, and confirmability. In the subsections below, there will be a brief discussion of each of these aspects concerning this study.

3.4.1 Credibility

The first aspect, credibility, is concerned with how believable the findings of the research are (Bell & Bryman, 2015). It focuses on ensuring correct research practices and validating that the investigators have accurately understood the social world by

sharing the research findings with members of the studied social world for confirmation, also called respondent validation. Another tool for enhancing the credibility of the research is triangulation, which involves gathering data from several types of sources (Bell & Bryman, 2015). In this study, triangulation was completed by cross-referencing data obtained from interviews, document analysis, and literature review. While interviews served as the primary data source, the findings were validated by employing two additional methods, thus ensuring comprehensive verification of the research findings. Further, respondent validation was conducted by presenting summaries of the findings to both the interviewees and the contact person at the case company. By conducting triangulation and respondent validation, the trustworthiness of this study was enhanced.

3.4.2 Transferability

Transferability is the aspect of trustworthiness that concerns with if the findings of a study can be applied to various contexts (Bell & Bryman, 2015). In qualitative research, findings are often tied to a specific context due to the typically in-depth study of small groups. Given the single case study approach utilized in this study, it may be challenging to apply the findings to contexts beyond the specific circumstances of the case company. However, as Bell and Bryman (2015) suggest, offering a very detailed description of the case company's reality can provide the readers with a foundation for assessing the potential transferability of the findings to different contexts. Therefore, the studied case company's context and challenges were thoroughly described to provide the reader with the needed information to base their judgments regarding the transferability of the findings.

3.4.3 Dependability

Dependability can be ensured by maintaining thorough records of the entire research process and implementing an auditing approach. This involves an independent auditor assessing the adherence to correct research procedures (Bell & Bryman, 2015). During this study's process, complete records of the research process were kept. The auditing process was facilitated with the assistance of a master thesis supervisor. Regular meetings were conducted with the supervisor, during which feedback was provided on the research process and strategies employed. Another form of auditing in this study may stem from the fact that it was written by two authors.

3.4.4 Confirmability

Confirmability pertains to objectivity, ensuring that personal values do not influence the research process. It can be argued that it is impossible to conduct business research in a completely objective way (Bell & Bryman, 2015). However, as emphasized by Bell and Bryman (2015), it must be evident that the researcher has acted in good faith and has not intentionally allowed personal values to influence the findings or manipulate them in a particular direction. The confirmability of this study was enhanced by striving

for objectivity throughout data collection and analysis. Additionally, the study being performed by two authors reduces the likelihood of personal values influencing the research. Furthermore, the oversight of a master thesis supervisor adds another layer of assurance against such bias.

3.5 Ethical Considerations

There are four ethical principles to consider when conducting business research: avoidance of harm, informed consent, privacy, and preventing deception (Bell et al., 2022). During this study, the principles were considered throughout the research process in several ways. A non-disclosure agreement was signed at the beginning of the research process, ensuring that no potentially harmful information to the case company would be exposed. Additionally, the name of the studied case company was omitted from the study. Furthermore, interviewees were assured anonymity, and informed consent was obtained by explaining the study's purpose and procedures. To safeguard their privacy, interviewees were required to consent to the recording of the interview and were informed of their right to withdraw at any time. Transparency regarding the research and its purpose was maintained with both the contact person within the department and the interviewees to prevent any possibility of deception.

4. Case Company Description

In this chapter, an overview of the case company is presented, followed by a detailed description focused on the case department and its operations relevant to this study. This chapter deviates from the typical structure of a case company description in terms of content. Results from the interviewees are included, as well as the understanding of the researchers regarding the case company. This makes the chapter a part of the result and analysis of the study, as the company description is determined relevant for the overall result, even as the correlation to the research question is less evident. The case company description is derived partly from documentation provided by the case company, as well as interviews with employees at the case department. Consequently, this chapter reflects the official description, employee perception, and authors' comprehension of the case company and the case department.

4.1 Case Company Overview

The following section provides an overview of the case company's structure. While this study does not specifically focus on the organizational parts detailed in this section, understanding their relation to the study's focus is crucial for contextualizing the research. As depicted in Figure 5, this study's focus centers on one division within the larger organization, and the study is performed at one particular department responsible for product strategy within the case division.

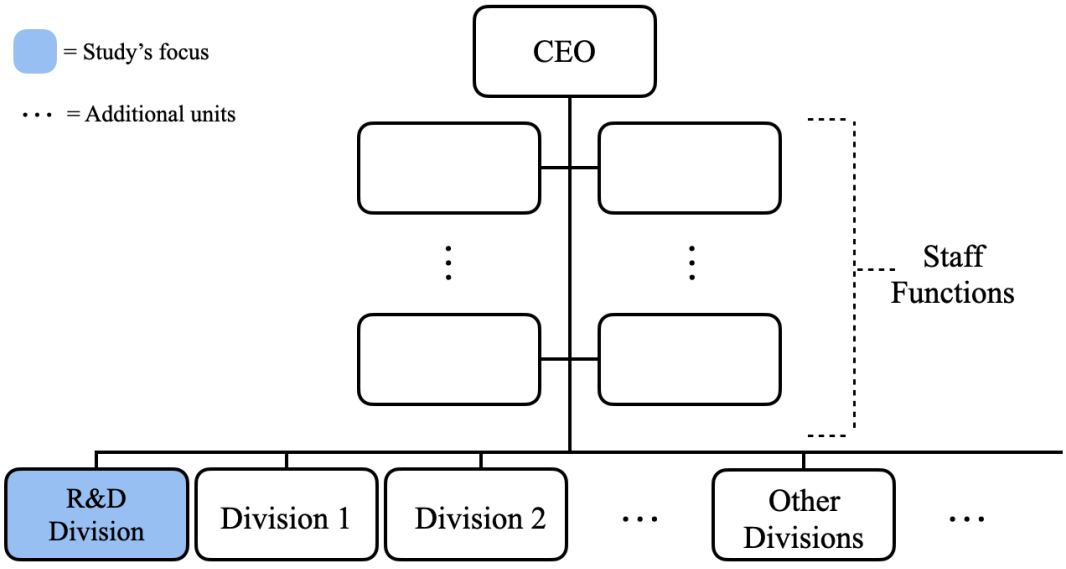

Figure 5. Simplification of the case company's organizational chart and where this study was focused.

4.1.1 Case Company

The case company is a large multinational technology firm, operating in several global markets. The CEO and Staff Functions provide strategic direction and targets for the

whole company. When reviewing company documents, they are described as an overhead function steering and aiding the different divisions in reaching the overall company goals.

4.1.2 R&D Division

In company documents, the R&D Division, also known as the case division, is described as maximizing the output from the company's R&D investments. They are further described as a division that works with developing solutions by utilizing both known and new technologies. They provide research, engineering, product strategy, and execute projects to deliver complete products. The focus of this study is on a department responsible for product strategy within this division, also known as the case department.

4.2 Case Department Description

In the following section, more detail on the case department is given. Firstly, an overview collected from document analysis is presented. Secondly, the recent reorganization is described. Thirdly, the current innovation efforts are presented. Fourthly, employee perspectives are highlighted, and lastly, the authors' understanding of the case department is described.

4.2.1 Company Document Description of The Case Department

The focus of this study lies in a department within the case division. The case department is responsible for product strategy. They use market knowledge and strategic investigations to formulate product strategies. The case department is responsible for the product strategy in various segments, encompassing both product types and geographical markets. In company documents, the department is described to translate societal, customer, and market requirements into future products, services, and system solutions. While examining company documents, driving innovation and industry-leading solutions are highlighted as important aspects of their work as they are described to build the competencies needed to meet future demands.

4.2.2 Reorganization of the Case Department

In the year 2020, the case department underwent a reorganization. As part of this reorganization, the department changed its name to one that emphasizes more focus on strategy. Furthermore, in addition to the change in the department's title, there was a reduction in the number of employees, reducing the staff to approximately half the size. Most of the interviewees highlighted that the primary objective of the reorganization was to enhance product ownership within the functional lines, moving the responsibility of technological road mapping from the case department to other parts of the organization. The intention was to reduce the department's involvement in operational tasks, allowing more focus on strategic initiatives.

4.2.3 Current Innovation Efforts within the Case Department

Some initiatives within the case department have aimed to widen the scope of innovation. Primarily, these initiatives have involved exploring broader markets to comprehend how the core product could evolve in the future. For instance, following the reorganization, “industry vertical investigations” were introduced as a new process. During this process industry segments are studied to facilitate learning and understanding of the value chain, stakeholders, and pain points. The main outcome from these investigations has been new knowledge that potentially could benefit the core product strategy. There are some employees and managers responsible for the industry vertical investigations, but most of the workforce in the department is not involved. Only a few employees have been identified to work with industry vertical investigations on a daily basis. Some investigations have focused on the current industry and spending time with the end user to better understand the possible pain points. Others have focused on market growth and possible opportunities for the case company outside the core business. When management was asked about industry vertical investigations, one manager explained that a lot of the identified ideas have not yet been developed, but that the output have been mainly knowledge-based.

4.2.4 Employee Views on Departmental Role and Innovation

A subject that came up during many of the interviews is the fact that the organization is built to develop the core product, making it hard to pursue non-core innovation. A few employees highlighted how it is important that new innovations do not disturb the core business. One employee explained how it would be very hard to replace the core product as it makes good money currently, but as the business environment is evolving there is a need for change. To express the current focus of the department, Interviewee 5 said: “Part of the population inside the department feel that it is not our core responsibility to investigate non-core innovation. Maybe our core responsibility is to develop the core product strategy and on budget discussion surrounding the core product strategy.” Numerous employees also voiced that non-core innovation and strategy are not prioritized, with the main focus being on tasks that sustain the core business. Other employees also emphasized how the tech push from engineering influences the product strategy, making the focus inherently on the core product.

Some employees expressed uncertainty when asked about the case department’s responsibility for non-core innovation in relation to the rest of the company. Regarding the clarity of the department's responsibility for non-core innovation, interviewee 15 stated: “There's no document, at least not that I have seen, that says this is what we do at the headquarters, and this is what you do at the case department.”

4.2.5 Authors Understanding of the Case Department

The case company's intricate structure has posed challenges in understanding the case department clearly. The relationship between the case department and the rest of the organization is somewhat evident. But the department's stance on strategy and non-core innovation has remained ambiguous throughout the study. It's noteworthy that the company documents present a contrasting perspective compared to what employees describe during interviews. While the documents highlight the significance of strategy and innovation, employees place greater emphasis on the core tasks that sustain the core business.

It is also unclear who has the final decision-making authority regarding the progression of non-core ideas. It is unclear what action would be taken if the current R&D team within the case division lacks the necessary expertise to develop an innovation identified by the case department. If the authors of this study find the case department's role and responsibilities unclear despite actively seeking to understand them, it may indicate either a lack of capability on the part of the authors to comprehend these matters, or that the informants can only share what they themselves know. This methodological issue will later be addressed in section 6.5.

5. Results and Analysis

The thematic data analysis resulted in eight main themes. These themes represent one primary challenge each faced by the studied case department when pursuing non-core innovation. These challenges are presented in Table 3 below and will be further described in the following subchapters, with each sub-chapter representing one challenge. It is also important to note that these categories may not be entirely orthogonal, as some categories may influence or result from others. However, these categories were chosen due to their inherent significance. Placing one category as a subcategory of another could diminish its perceived importance, despite it being equally important.

Table 3. The primary challenges found during the data analysis.

1. Divided view on adopting non-core innovation
2. Unfinished reorganization hinders non-core innovation
3. Core-business activities cannibalize non-core innovation activities
4. Mindset and motivational challenges for non-core innovation
5. Process challenges for non-core innovation
6. Insufficient Resources Dedicated to non-core innovation
7. Organizational structure hinders non-core innovation
8. Unclear responsibility for non-core innovation

5.1 Divided View on Adopting Non-Core Innovation

When asked if the case department should engage in non-core innovation, most interviewees advocated for it. Interviewee 9, like many other interviewees, expressed the opinion that widening the innovation scope beyond the core product is essential not just for profitability but also to mitigate vulnerability: "I believe that we don't do this just because it's profitable, but rather because we need to diversify to become less vulnerable." Some employees specifically highlighted the importance of widening the innovation scope beyond the core offerings due to the transformation within the industry towards electrification. Employees saw a risk that the electrification could shift customer requirements and allow for new value propositions to take over the market, possibly rendering the core product less valuable to customers.

Interviewee 15 expressed, "I think you have to be afraid of disruption every day, really. That it can all go downhill and try to do what you can. Maybe our market won't change much, but there's always the possibility that someone else will come and do something completely different in our industry too. You can't pretend that it can't happen." This sentiment was shared by interviewee 14 who said, "Everyone over 50 here, they know about Kodak and Nokia. But the question is how to avoid becoming a Nokia or Kodak?"

Contrary to the positive outlook on widening the innovation scope, a few employees also provided reasons why the department should not expand beyond the core product. Interviewee 4 expressed, "For then we would be another company, then we would have to change and become completely different. We shouldn't use our organization to develop something completely unrelated."

When the interviewees were asked about ongoing attempts to widen the innovation scope beyond the core product, the majority emphasized that the efforts were insufficient. Interviewee 6 said, “We do not really spend time looking outside the core product, there is some work done on finding new opportunities, but the outcome rarely enters the core product strategy from there.” Additionally, while some employees perceived a strong request from management for widening the innovation scope beyond the core product, others argued there was no clear directive on the matter. While discussing the matter, management had the opinion that the department should widen the scope of innovation to some extent but with emphasis on the core business. When asked if there is any interest in pursuing non-core innovation interviewee 10 expressed a divided view regarding the matter. While they emphasized their responsibility for the core product's evolution, they also recognized the value of exploring broader perspectives for potential business opportunities:

> “We are an engineering organization developing the core product, this is what we do. I have the responsibility for the core-product evolution […]. I do not have the responsibility to investigate if we should buy a new company, or if we should invest into a new business unit etc. This is not my responsibility and not the responsibility of the case department. However, looking at a wider scope you gain some insight into what will be the evolution of the product influencing what will be the next business for the company. So, it is not our core responsibility, but I have a tendency to say that if we have a great idea, it is not that we are not able to develop it, but it is not primarily our case”

Interviewee 11, also a part of management, thought the department’s innovation scope is already somewhat sufficient, “There is no limitation on we only look at this, we only look at that. The limitation is really capacity and its focus, nothing more than that.” They also expressed how innovation outside the core product often does not pay off, “Do we spend enough time on it? I would say we do. Does it pay off? Maybe not because most of the time we find that there is no value in it.” When one of the employees was asked if non-core innovation is within the scope of the department, interviewee 14 said: “I do not think it is within our scope, even if there is nothing stopping that type of investigation. But if you have a lot of ideas that never get developed, in the end, you are going to narrow the scope and focus on the core product again”. Interviewee 13 expressed that if you have an “out-of-the-box idea,” you must first evaluate if it could benefit the core business. Management also highlighted that the idea's connection to the vision is really important when trying to find new opportunities.

In summary, most of the employees see a need for the department to engage in non-core innovation. However, employees' views slightly differ from management's view on what the department should focus on. This might be the reason why most of the employees also perceive that there is insufficient time spent on exploring non-core innovations. The management seems not to perceive the same urgency for widening the innovation scope due to risk from potential disruptive innovations, which may be the reason why they see the current effort as sufficient while employees do not. The management and most employees expressed that there are no formal limitations to exploring non-core innovation. However, if the ideas are not connected to the current vision and can benefit the core business those ideas will not be developed. Additionally, as said by interviewee 14, if those non-core ideas never get developed or tested, it could be argued that it is difficult to see the point of pursuing such work.

5.2 Unfinished Reorganization Hinders Non-Core Innovation

As outlined in the case company description, a reorganization took place a few years ago which was extensively discussed in all interviews. Employees expressed opinions on both the outcome and effectiveness of the reorganization. Interviewee 10, a member of the management team, emphasized that the reorganization has not unfolded entirely as planned, as they have had to reassume many of the responsibilities intended for other parts of the organization to undertake. Interviewee 10 went on to explain that the organization was not adequately prepared for the reorganization. As a result, the case department is still actively involved in projects, performing more detailed work than initially anticipated. Interviewee 5 explained that initially, the idea of the reorganization was that the case department would start investigations and identify new business opportunities, but the challenge has been to hand them over to other parts of the case division for further investigation and development:

> "Unfortunately, in practice, it doesn't work. Because nowhere in the organization you have a resource available to actually do this […] and that's where we are struggling a little bit since the beginning because management is telling us to identify business opportunities. But at the other end of the pipe, we are not organized to take these opportunities and prioritize them and document them and transform them into real opportunities."

Many other employees provided similar accounts, describing instances where the department had to reclaim numerous responsibilities because of a lack of expertise within the rest of the case division to effectively take them over. When questioned about initiatives aimed at education or competence development to enable other parts of the organization to take over these responsibilities, interviewee 14 responded: "No, but I believe the need exists. But it's so important that our core business operates successfully that we have just accepted the situation."

Some employees perceived that the department lost essential tools for future scenario planning following the reorganization. Interviewee 12 articulated that while the previous tools may not have been flawless, they nonetheless offered a framework for future scenario planning. Interviewee 9 noted that although some scenario planning tools were lost, there are now initiatives led by selected employees aimed at gradually rebuilding this capacity.

Interviewee 11, a member of management, emphasized the importance of balancing operational tasks with strategic planning at the department. According to interviewee 11, people overplay the word strategy sometimes and emphasized that while being strategic is essential, it should not disconnect individuals from core operations. Regarding the reason for the reorganization, they discussed how the department previously experienced an imbalance between operational and strategic aspects due to excessive control mechanisms. However, in terms of the outcome of the reorganization, they noted a natural progression of letting go of some control to facilitate change and then reclaiming what is essential. They stated, "to be able to make a change, you need to let a lot of that go and see what actually sticks." Regarding the reclamation of responsibilities after the reorganization, they mentioned, "Have we taken back some things? Yes, we have. Because there was a need for it." However, they stressed that the intention was never to be purely strategic, as it would result in less influence due to a lack of connection to daily operations. Instead, they advocated for finding a balance between strategy and operations.

To summarize, numerous individuals anticipated that the outcome of the reorganization would afford them additional time for strategic tasks and future analysis. However, as the department has taken back a lot of responsibilities intended for other parts of the organization, the workload has increased. Due to the decrease in workforce and the resumption of responsibilities intended for other parts to take over, many employees feel they lack sufficient time to prioritize strategic tasks, such as exploring non-core innovations. Due to the state of the department following the reorganization, rebuilding strategy and future analysis processes corresponding to the previous ones could pose significant challenges. The perceived absence of established procedures for future outlooks might further complicate the pursuit of non-core innovation.

5.3 Core-Business Activities Cannibalize Non-Core Innovation Activities

Many interviewees highlighted the department's focus on immediate tasks, such as budgeting and core projects. They expressed concern that prioritizing future bets and non-core innovation might be overlooked due to pressing current issues. Additionally, they emphasized the challenge of allocating resources from current profitable products to invest in non-core innovation, stating that it is not typical for this type of company. For example, interviewee 15 said, “You cannot get anyone to offset money at the

expense of something that is making money today. It does not work like that in these types of companies."

Moreover, most employees indicated that core tasks tend to dominate their workload. Interviewee 4 stated that the departmental staff currently faces a heavy workload, making it challenging to prioritize strategic tasks alongside core operations, as the focus often shifts to urgent deliverables. Interviewee 6 also highlighted how core operational tasks tend to get prioritized, especially in stressful situations: "If there's a fire in a project due in six months, you have to drop everything else and solve it." When asked about the challenges of investigating non-core innovations, interviewee 5 explained that people today are so busy that they have no time to spare for activities outside core operational tasks. Interviewee 14 described how activities related to non-core innovation get deprioritized as follows:

> "I don't know, since I switched to this role I have asked for dedicated workshops […], and we haven't done that. I think we are a large company with quite a high workload so if it's not determined that this is important and it doesn't align with our way of working, it doesn't get done. We're all running around in meetings all day."

In summary, projects and activities connected to the core business always seem to be prioritized over those related to non-core innovation. As most interviewees stated, if there are issues with the current core business, they will consistently receive prioritization over more strategic endeavors and non-core innovation. In such instances, the prioritized projects and activities tend to consume resources and time originally allocated for "future bets" projects and non-core innovation. This is primarily due to the uncertainty of potential future sales linked to such endeavors, whereas projects aligned with the core product often offer a clear, calculated outcome. Consequently, prioritizing initiatives with assured revenue generation becomes more straightforward. Additionally, many interviewees stated that after the reorganization, there is a high workload with still many operational and detailed tasks that need to be quickly solved. This makes many employees perceive that they do not have time left to be creative and engage in non-core innovation activities. Furthermore, the awareness among employees that resources allocated for future bets and non-core innovation often end up being cannibalized by more straightforward core projects points towards motivational issues when engaging in such activities.

5.4 Mindset and Motivational Challenges for Non-Core Innovation

Some employees noted that individuals have varied preferences regarding their tasks, with some favoring operational work while others lean towards more strategic work. Interviewee 4 suggested that the appeal of operational tasks lies in their tangible outcomes, which certain individuals find more motivating. Interviewee 6 highlighted that mindset and convenience are the two major reasons why people find it hard to do new things. Some employees attributed the tendency to revert to core tasks to

background factors such as age, education, or work experience. Interviewees 6, 14, and 15 highlighted how previous working experience could determine your mindset towards innovation and what type of projects you prefer. Interviewee 14 suggests that diversity, including age and experience, is important within the team to foster innovation. They express a desire for younger perspectives and different experiences to enrich the department's approach to innovation.

Several interviewees also underscored the necessity of significant motivation to undertake "out-of-the-box" or non-core projects. Interviewee 5 noted that core tasks consume most of their time, requiring high motivation from employees wanting to pursue non-core projects. Interviewee 8 echoed this sentiment, suggesting that non-core initiatives demand more energy, potentially leading individuals to opt for familiar core tasks instead. Interviewee 4 highlighted the importance of having a strong belief in your idea for achieving success since the department's enthusiasm for non-core initiatives might be limited. The term “driving force” was used by interviewee 14 to describe the type of people that are needed at the department to successfully pursue non-core innovation. The same interviewee also mentioned how one of their projects was discontinued after they transitioned temporarily to a role in another department, as there was nobody available within the case department to continue the initiative.

In summary, there appears to be a widespread agreement that as an employee, you need to be highly motivated to successfully pursue non-core innovation. This implies that there may be insufficient support for such initiatives, highlighting how an individual's mindset and determination play crucial roles in the success of non-core innovation efforts. This poses a challenge for non-core innovation, as it heavily relies on individual efforts and risks being deprioritized if there are no clear benefits for employees to invest heavily in such initiatives. If the success of non-core innovation is solely dependent on individual efforts, the department will consequently be vulnerable to personnel departing for other roles or changes in personal motivation over time. The influence of employee background and experience on innovation mindset is intriguing, particularly given the case department's workforce, which appears to have a long history within the company. If there is limited effort to recruit individuals with diverse mindsets, there will likely be less non-core innovation, as a uniform workforce reduces the likelihood of exploring "out-of-the-box" ideas.

5.5 Process Challenges for Non-Core Innovation

As part of the reorganization, a new process known as industry vertical investigations was implemented within the department, as outlined in section 4.2.3. When asked about initiatives to enhance strategic work within the department, interviewee 15 provided insights into the efforts directed towards allocating resources for industry vertical investigations. Initially, substantial time was invested in the new process, but gradually, these efforts faded, "We tried, and we created various roles to focus more on forward-

looking planning and such. But it never really gained momentum as I see it, and I think when it came down to it, there wasn't much demand for it.". During the interview with interviewee 5, a documented list of business opportunities was discovered. This list contained business opportunities identified during industry vertical investigations and would be continuously filled out as more investigations were carried out. This list aimed to collect and document business opportunities for further exploration. When asked if this list is accessible for everyone at the department to review, interviewee 5 responded, “Today we have published it on our SharePoint, so maybe some people are looking at it and I don't even know about it. But to be honest, so far, I have not heard from anybody that they are interested in an idea. I never had any call from anybody to know more about one specific idea in this list". This was confirmed by interviewee 9 who, when asked about the list, had never heard about it before.

In general, opinions within the department are varied regarding the new process of industry vertical investigations. Interviewee 4 expressed that there is a lack of concrete business ideas from these investigations and suggesting a need for clearer outcomes. Interviewee 6 echoed this sentiment, emphasizing that the investigations have focused heavily on the current market rather than future analysis.

A lack of processes for non-core innovation was also highlighted by a few of the employees interviewed. Interviewee 14 expressed the view that there are currently no barriers to adopting a broader scope of innovation, but they also acknowledged the lack of developed processes for it. Interviewee 5 expressed concern regarding the process of prioritizing and further investigating identified business opportunities. They highlighted that despite some efforts to review and prioritize ideas during team meetings, there is a lack of formalized criteria or methodology for this purpose. During the interview with interviewee 9, the discussion also addressed the deficiency in processes regarding the documentation and review of ideas. Interviewee 9 remarked, ”My experience says that it has never worked to put things on the shelf. One would have wished that it was possible to take down interesting ideas from the shelf later, but it doesn't really work because there is such a high turnover of people, so you never remember that shelf of ideas”. When asked if there is any current method for documenting these types of ideas, interviewee 9 responded that there is currently no such process in place, but they believe it might be a good idea to implement one.

In summary, employees seem concerned about the lack of processes for non-core innovation overall. It could be argued that there is a lack of initiatives to develop much-needed processes for idea documentation and prioritization. But as the current processes themselves need resources to further improve, it’s not surprising that the development of new processes is receiving less focus currently. Further, it is worth noting that a lack of established processes for reviewing and prioritizing new ideas could lead to the evaluation of these ideas being based on subjective opinions and gut feelings. As the department navigates these challenges, together with the stress from the reorganization, it can result in a firefighting scenario where sufficient non-core innovation process

development is hindered. Coupling that with a heavy workload and the requirement for high individual motivation to drive a non-core innovation project, it is not hard to understand why process development might not be as sufficient as hoped by employees. Nonetheless, the lack of, or unsatisfactory, non-core processes today do pose a challenge for non-core innovation, as it further demands individual motivation and responsibility without the help from established processes within the department. It is also worth noting that there seems to be a lack of communication and collaboration regarding new business opportunities, as discovered during the interview with interviewee 5. Even as the list of identified business opportunities is available for the whole department, little interaction or discussion regarding these ideas seems to be present. This could also challenge non-core innovation as these ideas get isolated and are not reviewed by other employees systematically.

5.6 Insufficient Resources Dedicated to Non-Core Innovation

Many of the interviewed employees and managers explained that there is a budget allocated for what are known as idea investigations. Most of the interviewees emphasized that obtaining funding for exploring creative ideas is quite straightforward and that the management is supportive of employees doing so. When interviewee 4 was asked about what requirements were needed to get funding for an investigation they answered, "Very little […]. When it's such a small amount of money, not much documentation is needed besides trust and a good idea." Interviewee 15 clarified that there are no specific guidelines on how the funds should be utilized, such as for supporting new innovations.

In contrast to getting funding for the investigation of an idea, employees found it challenging to get resources to further develop an identified business opportunity. Interviewee 5 described how they have several identified business opportunities, with some ideas falling beyond the scope of the core business. However, they do not have the resources to document and develop them further into complete business propositions, which makes decision-making and implementation impossible. When asked what resources are available to further develop the business opportunities identified during the industry vertical investigation, interviewee 5 said, “today we have no resource at all. The only resource we have is the people from our department”. Interviewee 5 further explained that they have been in contact with another department within the case division, which is more focused on innovation and partnerships, to explore the possibility of seeking their assistance in prioritizing business opportunities. This initiative failed because this other department, similar to the case department, does not have the resources to investigate additional business opportunities outside of their original workload. Interviewee 14 also shared their experience of collaborating with this other department and highlighted its potential usefulness but noted that resource limitations are currently a hindrance. “I actually felt that there we had the opportunity

to use the team to test things out. But there are also very few people, and they didn't have the capacity to do it".

Interviewee 8 also discussed the challenge of evaluating non-core ideas, as one may not possess the same level of understanding regarding costs and potential revenues, an area where the organization typically excels in core-product innovation. When management was asked about the potential outcome if the case department identified an opportunity that did not fit into any existing product strategy, interviewee 11 responded, "You can start a plan for anything at any time, but what you need to have visibility on are the business impact that you will have and the business benefit." However, interviewee 10, also part of management, did identify some challenges associated with further developing promising business opportunities, "For the realization that is much more complex. It is very frustrating, you do an industry vertical and find a good idea that you want to do, but then you do not have the budget or the resources because everything is full. You want to sneak something inside, but it is not a priority. It is a new idea and investigation compared to what is already decided to be done, and then it is stuck".

Interviewees also discussed potential success factors, with one recurring theme being the allocation of dedicated resources and funding for non-core innovation. When asked about the potential benefits of having a separate budget for non-core innovation, interviewee 15 remarked, "I am as convinced that it would have been good as I am convinced that the money would have disappeared from the budget on day two when things go downhill in the other projects. Sad and cynical, but I've seen it so many times." When questioned about possible solutions to the funding issue for non-core innovation, the employee emphasized the importance of having an advocate in upper management who strongly supports innovative projects, even in difficult times. They stressed the necessity of someone who passionately champions the allocation of resources for such initiatives, ensuring continual support for the exploration of new ideas and non-core innovation.

In summary, there are scarce resources dedicated to non-core innovation. Firstly, there are very few people in the entire department dedicated to exploring non-core ideas. However, although there is a budget readily available for employees to launch investigations for ideas, these funds are often insufficient to develop a comprehensive business case for a non-core idea that can be presented for decision-making. Converting a non-core business idea into a complete business case often requires additional activities and support from other departments, such as testing. However, these departments also appear to lack the necessary time or resources to assist in this process, resulting in the ideas "ending up on the shelf". Furthermore, returning to the challenges previously described, most employees don't feel they have the time to engage in non-core idea investigations, as core tasks often consume all available time. In instances where resources are allocated to future bets or a non-core business idea, they often end up being cannibalized by more urgent core projects, as detailed in Chapter 5.3. Moreover, without resources dedicated to further developing the business

case, there won't be enough information for decision-making. Consequently, there's little hope for the development of new ideas that don't align with the current product strategy. Even if management has the perspective that you can start a new product strategy for anything you want, as long as you have viable business benefits, the lack of resources to even initiate an investigation to gather enough information will get in the way of non-core innovation.

5.7 Organizational Structure Hinders Non-Core Innovation

A recurring theme in many interviews was the organizational structure geared towards core-product development, posing challenges for broader innovation adoption. Interviewee 8 stressed the importance of ensuring non-core innovations do not disrupt core business operations. They acknowledged the difficulty in replacing the core product, given its current profitability, but acknowledged the need for adaptation due to evolving business landscapes. Interviewee 14 echoed this sentiment, noting how the organization's focus on delivering the core product naturally centers the department's attention on that area. Interviewee 5 expressed concerns about the lack of interest in non-core innovation within the case department, suggesting that some view core product strategy and investments for the core business as the case department’s core responsibility. Other employees also emphasized how the tech push from engineering influences the product strategy, making the focus inherently on the core product.

When questioned about the potential outcome of driving a non-core idea within the department, interviewee 10, a member of management, expressed that it could be more challenging as the system is not structured for it. Another challenge for non-core innovation identified by employees is the relationship with the other divisions. When asked about the challenges associated with investigating non-core innovation, many respondents highlighted the difficulty if there is no division interested in the idea, which could lead to the project being abandoned. Interviewee 1 elaborated on the relationship to other divisions, describing it as resembling an ordering system where input from the other divisions significantly influences the core product strategy.

In summary, there seem to be a few challenges associated with the core-centric organizational structure of the department. The challenge of navigating the relation to the other divisions, which the current product strategies are designed for, does seem to make non-core innovation more difficult. As described by many employees, obtaining resources for non-core innovation is already challenging. However, if there is also a lack of interest from other divisions, the competition for resources would become even more intense. Since the department is accustomed to collaborating with other divisions within the core business, venturing beyond this comfort zone becomes even more daunting. This makes non-core innovation more challenging to pursue since it requires the department to go out of their comfort zone and could be a reason for why non-core ideas often get abandoned.

5.8 Unclear Responsibility for Non-Core Innovation

Another challenge identified during the interviews revolves around the ambiguous responsibility for non-core innovation within the case company. When questioning management about the clarity of the case department's role regarding non-core innovation in relation to the rest of the company, interviewee 11 remarked, "It's not black and white like that. It goes both ways. Very much depends on the timing and depends on the context that you are in." When asked if the responsibility distribution for non-core innovation within the company is clear interviewee 10, also part of management, responded that it is somewhat unclear who is responsible for non-core innovation.

Some employees voiced uncertainty regarding the department's role within the case company concerning non-core innovation. When asked about the department's responsibilities, interviewee 15 noted that it is ambiguous regarding future strategy for non-core innovation. They highlighted a lack of documentation when it comes to the different non-core responsibilities between the head office (CEO and staff functions) and the case department. Similarly, when asked if adopting a broader innovation scope falls outside the department's responsibility, interviewee 12 commented, "I think it's lacking in the company as a whole. I would say that our department is actually the one furthest in this without having everything in place." Interviewee 6 agreed, emphasizing that regardless of how the issue is resolved at the company level, the case department should play a role in non-core innovation.

In summary, a lack of clear responsibility for non-core innovation seems to make employees unsure whether it is within the case department's scope or not. This could have negative consequences for non-core innovation as it might lead to no department taking action, and thinking someone else is responsible. It is worth mentioning that there seems to be an interest and desire within the case department to be involved in non-core innovation, which could benefit the feeling of responsibility. But as no clear direction is set, the department as a whole will not consider non-core innovation as part of their responsibility.

6. Discussion

This study aimed to shed light on the primary challenges an incumbent may face when pursuing non-core innovation. To that end, a case department within a multinational company operating in the automotive industry has been investigated and several findings have been highlighted. During the analysis, it became evident that non-core innovations are coupled with complex considerations. There may not always be a "one-fit-all" solution, and there may be times when there are no correct or incorrect answers. Therefore, the discussion will begin by highlighting three major challenge areas, followed by an overview of possible mitigation strategies.

6.1 The Challenge of Talking About Innovation

Several findings from the study indicate significant conceptual challenges regarding the discussion around the department's innovation capability. Despite the department's involvement in innovation planning, the subject was still difficult to discuss at times. The reason may be that there are many different interpretations concerning the definitions of different types of innovation. The interviewees seemed to have a diverse view of the innovation terms such as "adjacent innovation", "transformational innovation", "disruptive innovation", and "non-core innovation". For example, when interviewees were asked whether they knew if the department worked on any non-core innovation, they often became uncertain and needed time to think. Those who answered yes to the question often described what this study considers to be core or sustaining innovation, based on theories (e.g., Christensen, 1997; Nagji and Tuff, 2012).

This highlights the challenge of discussing disruptive and transformational innovation, as interviewees described sustaining or incremental examples when asked about non-core innovation. Even when asked about adjacent innovation, the examples given were heavily connected to the core business. This could indicate the complexity of innovation, as there are numerous frameworks attempting to explain its various types (e.g., Christensen, 1997; Nagji & Tuff, 2012; Henderson and Clarke, 1990). Furthermore, as highlighted by Christensen (2015), it is common for many to misinterpret the theory of disruptive innovation. Often, innovations are mistakenly labeled as disruptive simply because they are successful and have an impact on the market. This was exemplified by the case of Uber, as described in Chapter 2.3.1.

The findings suggest that there seems to be a lack of understanding within the case department regarding the difference between various types of innovation. Consequently, this could pose challenges for non-core innovation, as it requires distinct management approaches compared to core innovation (e.g., Christensen, 1997; Nagji and Tuff, 2012; Henderson and Clarke, 1990). This is supported by Christensen (2015), who emphasizes that many firms tend to manage different types of innovation in the same way as they manage sustaining innovation. However, this can be problematic because utilizing screening processes and strategies designed for core innovation on

non-core innovation poses a risk of prematurely discontinuing non-core ideas (Nagji and Tuff, 2012). It could be argued that there is a need for more discussions and workshops within the department aimed at enhancing knowledge about the innovation types found in literature, and how they should be managed effectively.

6.2 The Challenge of Deciding Who Should Drive What Type of Innovation

As prevalent from the study result, there was a divided opinion among interviewees concerning whether the department should adopt non-core innovation. There were different opinions about the benefits of adopting a wider innovation scope. Employees, compared to managers, identified a bigger need to further widen the innovation scope while managers thought that they already had a wide enough innovation scope with no formal limitations. Employees more frequently mentioned the risks of not widening the innovation scope further, for example, the quote from interviewee 14, “Everyone over 50 here, they know about Kodak and Nokia. But the question is how to avoid becoming a Nokia or Kodak?”. This highlights that there is an awareness within the department regarding the subject discussed in theories such as the innovator’s dilemma and incumbent’s curse (Christensen 1997; Chandy and Tellis 2000). The divide in opinion seems to concern whether they are currently doing enough to mitigate the risks of disruption and how they should manage innovation in a mature market. This view aligns well with the theory provided regarding the s-curve, which highlights the increased risk of disruption as the market matures (Foster, 1986). Given the differing viewpoints among both employees and managers concerning the adequacy of the current innovation scope, the pursuit of non-core innovation becomes increasingly challenging.

It's worth noting that while management acknowledges the need for improvements in current processes, employees express a greater demand for new processes and an expansion of the innovation scope overall. So why is management more hesitant to change the current ways of working and adopt a wider innovation scope, including non-core innovation? This could be explained by a higher level of risk associated with non-core innovation, which would affect managers’ decision-making to a higher degree than employees. As managers have the responsibility for overall performance, core innovation is almost always a safer bet since the potential revenue of core innovation is easier to predict compared to non-core innovation. As described by Christensen et al. (2015), disruptive innovation often yields lower profitability initially, which could make it hard for management to justify the investment. Regarding non-core innovation in general, even if profitability proves to be high, there is a challenge for management to effectively evaluate these opportunities as they typically present weaker business cases compared to traditional core business projects.

Finally, the interviewees expressed uncertainty about whether the studied department should be responsible for non-core innovation. As mentioned earlier, there is a focus

on the core business and sustaining innovation at the case department. However, some interviewees expressed that non-core innovation should be handled separately from core innovation, perhaps at a different department. Literature such as Nagji & Tuff (2012) and Christensen (2015) express that this may be a favorable strategy to accelerate the focus on non-core innovation.

6.3 Practical Challenges of Non-core Innovation at the Case Department

In addition to the aforementioned challenges, it was discovered that the case department encounters six primary practical challenges related to non-core innovation. In this section of the discussion the following six practical challenges are discussed: (1) Unfinished reorganization hinders non-core innovation, (2) Core-business activities cannibalize non-core innovation activities, (3) Mindset and motivational challenges for non-core innovation, (4) Process challenges for non-core innovation, (5) Insufficient Resources Dedicated to non-core innovation, (6) Organizational structure hinders non-core innovation.

6.3.1 Unfinished Reorganization Hinder Non-Core Innovation

When discussing how the reorganization has affected the pursuit of non-core innovation, the aspect of workload becomes important. The reorganization seems to have placed the department in a stressful situation with less time and resources. This state could be argued to decrease the ability to pursue non-core innovation. There are many challenges faced by incumbent firms, as highlighted in the theory part of this paper. Most of these challenges could have an even higher impact when an organization is experiencing the pressures associated with a big change. As described by Henderson and Clarke (1990), incumbent firms often adopt filters and routines that allow for efficiency and optimization. These could be argued to have a significant role when an organization is experiencing a high workload, where efficiency is of high importance. With the reorganization resulting in a decreased workforce and increased workload, it is to be expected that following core-centric filters and routines are prioritized to increase efficiency. Combining this with the costly, difficult, and risky aspects of adopting new routines suitable for non-core innovation (radical innovation), as suggested by Nelson and Winter (1982), it is not surprising that non-core innovation becomes even more challenging during a reorganization.

6.3.2 Core-Business Activities Cannibalize Non-Core Innovation Activities

As described by Foster (1986), a company situated at the end of the s-curve needs to invest more resources to achieve the same performance increase as previously. As a result, it could be argued that the department has no time or resources to spend on non-core innovation, as the core business requires increasing effort as the market matures. Another aspect that could cause challenges for non-core innovation is the current customer base. Non-core innovation could face challenges when surrounded by an

organization that is heavily focused on the existing customer to improve the core product. As described by Christensen et al. (2015), this customer-centric approach will make the internal processes most effective for sustaining innovation. This could be one reason why non-core innovation is more challenging at the department, as the current processes are developed for incremental and sustaining innovation.

Nagji and Tuff (2012) emphasize that different types of innovation need to be managed in different ways. This could be a reason why core business activities cannibalize non-core innovation in the department. As discussed by the authors, aspects such as funding and decision-making will work differently for core, adjacent, and transformational innovation. It is therefore unlikely that the case department will succeed with non-core innovation while adopting a management style that is successful for core innovation. When looking at the current work at the case department, managing the core product strategy could be an example of how to handle core innovation effectively, but as suggested by the result, does not foster non-core innovation.

Other aspects that could play an important role in managing non-core innovation are organizational filters. As discussed earlier in relation to the reorganization, organizational filters play an important role in creating efficiency and optimization (Henderson & Clarke, 1990). But this is another example of how managing core and non-core innovation differs. The result suggests that an organizational filter is present in the department, filtering out initiatives and tasks that are not related to the core business. It should be noted that these filters do play an important role in sustaining and incremental innovation as it allows for the department to work efficiently. But it should also be highlighted that the same filters are also what determines core tasks, making it very difficult to pursue non-core innovation routinely.

6.3.3 Mindset and Motivational Challenges for Non-Core Innovation

When discussing mindset and motivational effects on non-core innovation, the aspect of incentives becomes important. As described by Conner (1988), incumbents generally perceive smaller incentives for introducing radical innovation, as they already have a stable and profitable business currently. This highlights the challenge of driving non-core initiatives when the core business is the main incentive at the firm. The results indicate that it is more difficult to drive a non-core initiative at the case department as it requires high personal motivation. This might be due to departmental motivation being limited concerning non-core innovation, resulting in personal motivation being required. Coupling this with less likelihood of getting rewarded for such initiatives (Schumpeter, 1942), the environment for non-core innovation becomes even more challenging.

Another aspect that influences the motivation needed by employees to drive a non-core initiative comes from the approval process for new ideas. Innovations often must go through a time-consuming screening process filled with administrative and bureaucratic

layers, which often leads to the idea eventually getting turned down (Sherer, 1980). This further requires high motivation from employees looking to get a non-core innovation approved. Combining this with existing organizational filters and routines, the effort needed by employees becomes even higher.

One aspect that could influence both the mindset towards innovation and the different preferences among employees, is previous experience and background. Nagji and Tuff (2012) highlight the importance of employing staff with a diverse set of skills depending on the type of innovation tackled. As highlighted in the result, employees in the case department seem to have different preferences concerning the type of work they enjoy. As discussed by Nagji and Tuff, analytical skills play an important role in core and adjacent innovation, while transformational innovation requires you to not be afraid to tackle ambiguous data. The challenge in pursuing non-core innovation may stem from the absence of varied skill sets and preferences among employees within the case department. In addition to preferences, a mindset to innovation could also bring challenges for non-core innovation. Having different mindsets and perspectives could benefit the adoption of new types of innovation within the department. As highlighted by a few employees, the staff is currently uniform in terms of education, experience, and age, which could pose a challenge for non-core innovation.

6.3.4 Processes Challenges for Non-Core Innovation

The data analysis suggested that the current processes within the case department may hinder the successful implementation of non-core innovation initiatives. This finding is consistent with the research of Henderson and Clarke (1990), who suggested that organizational routines are a common constraint on the ability to innovate radically within incumbent firms. Specifically, Henderson and Clarke (1990) emphasize that processes in large incumbent firms are typically optimized for producing large volumes of current offerings efficiently. This optimization often involves reducing costs, time, and uncertainties, leaving little room for driving radical innovations with higher uncertainties. Additionally, this theory closely resembles the concept of mechanistic structure as described by Burns and Stalker (1961). Therefore, it could be argued that large incumbent firms, such as the case company, tend to adopt a mechanistic structure, optimizing processes to be as efficient as possible for current offerings.

The results indicate that some efforts have been made to establish a process for expanding the innovation scope beyond the core business. However, these efforts did not gain significant momentum and are beginning to wane. Additionally, there are missing processes for documenting and evaluating non-core innovation. This could suggest a phenomenon in the case department consistent with what Christensen (1997) highlighted. He highlighted that innovation types are often managed in the same way as core innovation, which, according to Nelson and Winter (1982) and Christensen (1997), is a recipe for failure with non-core innovation.

Furthermore, as highlighted by Nelson and Winter (1982), adopting new processes suitable for non-core innovation tends to be costly, difficult, and risky, which may explain why managers are reluctant to do so. This reluctance may also explain the limited efforts of the case department to gain more momentum in the industry vertical investigations. Achieving this would necessitate additional resources. However, many interviewees mentioned that new innovations are not allowed to negatively affect or cannibalize the performance of the current core business. Adopting new processes for non-core initiatives may initially have short-term negative effects before they begin to generate any outcomes. However, as an abundance of research suggests (e.g., Christensen, 1997; Chandy and Tellis, 2000; Utterback, 1994), these new processes for non-core innovation may be necessary for long-term survival and growth. Thus, managers may find it challenging to justify the adoption of new routines when the existing ones have historically led to success, and the new ones could potentially have short-term negative effects. Consequently, shareholders may also struggle to accept these short-term negative effects, as they often pressure the firm to achieve yearly sales growth.

6.3.5 Insufficient Resources Dedicated to Non-Core Innovation

When understanding the current challenges regarding the lack of resources for non-core innovation, it is interesting to discuss the fundamental nature of a mechanistic firm. As described by Burns and Stalker (1961), adopting a mechanistic organizational structure allows for increased efficiency. Cutting costs and optimizing resource utilization becomes very important in this type of organizational structure, allowing for competitive advantages in a stable core business. As highlighted in the result, non-core ideas are identified at the department, but they tend to get filtered out when competing with core initiatives for resources. This aligns with the mechanistic structure where resources must be effectively spent on predictable outcomes. This type of structure is not well suited for non-core innovation where the future is less predictable, making it hard to compete with sustaining and incremental innovation where the benefits are more easily foreseen.

As described by Nagji and Tuff (2012), companies benefit from allocating resources to both core, adjacent, and transformational innovation. The result suggests that there is a lack of dedicated resources for both adjacent and transformational innovation, which could negatively impact the overall success of the case company. Not understanding the benefits of investing in all different types of innovation could be a reason why non-core innovation is having a hard time fighting for resources. As highlighted by Nagji and Tuff, a 70-20-10 allocation of resources between core-adjacent-transformational innovation can have significant benefits on revenue. As the results do not indicate any specific tactics at the department for resource allocation in terms of type of innovation, non-core innovation risks being routinely left out.

6.3.6 Organizational Structure Hinders Non-Core Innovation

The results indicate that the case company is a large organization structured similarly to the characteristics of a mechanistic firm. This suggests that the firm's structure is not conducive to being radically innovative, flexible, or operating in a dynamically uncertain market, as proposed by Burns and Stalker (1961). Moreover, many interviewees highlighted that the entire firm's structure revolves around its core products and offerings, presenting challenges in driving non-core innovation initiatives. Given that the studied department focuses on planning and decision-making rather than innovation development, it follows that another department must handle the actual development work. However, determining which department should take on this task becomes intricate when development departments have well-defined responsibilities and technology plans closely linked to parts or modules of the core product. Furthermore, these departments encounter constraints concerning budget, time, and manpower, leaving them with limited capacity to take on additional tasks. Nevertheless, it is imperative for the case department to identify the department responsible for developing non-core innovations to ensure the successful completion of such initiatives.

This could be facilitated by drawing insights from Nagji and Tuff's (2012) theory, which underscores the advantages of allocating 20 percent of innovation resources to adjacent innovation and 10 percent to transformational innovation. However, managing these two types requires slightly different approaches, as adjacent innovation benefits from being closely linked to the core business. This implies that the case department should allocate 20 percent of its focus to adjacent innovation within existing departments, as it involves delivering something they already excel at but in new markets. This suggests that existing departments could handle this responsibility. However, transformational innovation entails entirely new products and markets, indicating that the case department should establish a separate division with the responsibility to develop such initiatives.

6.4 Recommendations to The Case Department

This thesis did not primarily aim to solve the challenges associated with non-core innovation at the case department, it focused on investigating these challenges to establish a foundation for potential solutions. However, six practical recommendations have been identified through data analysis combined with previous research. These recommendations will be outlined below and may also serve as inspiration for companies and departments in a similar situation as the case department.

1. **Get a unified view on whether there should be more focus on non-core innovation.**

The first recommendation, which forms the foundation for subsequent actions, is to establish a unified view within the department regarding innovation responsibilities and necessary actions. As noted by Atkinson (2017), the case company operates in a mature and conservative market that has recently faced increasing threats from potential disruptors, consistent with the S-Curve theory elucidated by Foster (1986) and Chandy and Tellis (2000). Consequently, we emphasize the importance of having some prioritization on non-core innovation and making more efforts to mitigate the incumbent's curse. While some interviewees believe that more should be done, others perceive that the current efforts are sufficient and do not perceive disruption as a significant risk. However, few interviewees could provide examples of non-core projects or initiatives they have worked on, indicating that insufficient action may be taken despite diverse opinions. Therefore, we recommend a greater focus on non-core innovation than is currently allocated, though we cannot recommend whether this responsibility should lie with the case department or elsewhere within the company. However, the theory by Nagji and Tuff (2012) suggests that adjacent innovation does benefit from being connected with the core business since the knowledge and capabilities are of high relevance, while transformational innovation should be more separate from the core business.

2. **Explore and Educate on Various Innovation Theories**

The second recommendation involves dedicating more time and effort to discussing innovation and its various types. As outlined in section 6.1, establishing a shared understanding of innovation is crucial for fostering alignment and setting a unified vision that everyone comprehends and interprets consistently. This can be achieved through workshops, among other methods. Additionally, it is essential to explore the different types of innovation and how they should be managed to prevent common mistakes and misinterpretations, as highlighted by Christensen (2015).

3. **Find the right balance of resource allocation to core, adjacent, and transformational innovation.**

While Nagji and Tuff (2012) suggest an innovation resource allocation ratio of 70-20-10 for core, adjacent, and transformational innovations for an industry firm, it's essential to recognize that they also emphasize that there is no one-size-fits-all ratio. Each organization must find its specific ratio based on its operating context. However, it can be inferred that the case department would likely benefit from increasing its current allocation to adjacent and transformational innovations. However, the 70-20-10 ratio could serve as a starting point to adjust for the case department's specific operating context.

4. **Establish a workforce with diverse skills and knowledge backgrounds.**

To effectively engage in non-core innovation, the case department should prioritize building a workforce with a diverse range of skills and knowledge. Nagji and Tuff (2012) emphasize that different types of innovation require various skills. Therefore, to successfully pursue non-core innovation, the case department should prioritize hiring individuals with the appropriate skills and knowledge background for the specific type of innovation they aim to pursue. Currently, the workforce appears to consist mostly of individuals with homogenous backgrounds who have spent several years within the case company. While this setup may be advantageous for the core business, it could hinder non-core innovation efforts.

5. **Create a separate unit specifically responsible for non-core innovation.**

Multiple findings suggest that the case department's current structure is heavily centered on its core offerings, often resulting in the neglect or cannibalization of non-core innovation. Therefore, theories (e.g., Christensen, 1997; Nelson and Winter, 1982; Nagji and Tuff, 2012) propose that establishing a separate unit dedicated to non-core innovation, complete with its own budget and culture, can help alleviate these challenges. For instance, issues related to perceived incentives, organizational routines, and filtering could be effectively addressed through the implementation of a separate unit (Conner, 1988; Reinganum, 1983; Henderson and Clarke, 1990; Nelson and Winter, 1982). However, adjacent innovation would still benefit from being linked with the core business. A separate unit could also adopt a more organic structure, avoiding the rigidities associated with the mechanistic structure (Burns and Stalker, 1961).

6. **Establish a new way to value non-core innovation initiatives.**

To prevent cannibalization and facilitate the justification of non-core initiatives, considering a new approach to evaluate them could be beneficial. This might involve recognizing the value of the knowledge gained from these initiatives, even if they don't always result in tangible products or offerings. Alternatively, it's essential to acknowledge the necessity of driving non-core initiatives to mitigate the risk of obsolescence due to disruption. Additionally, the results revealed a lack of a formalized process at the case department to prioritize non-core business opportunities for further investigation. Creating such a process could ensure fair prioritization of different opportunities. However, it's important not to evaluate non-core innovation in the same way as core innovation. The commonly used stage-gate approach may not be suitable for non-core initiatives, where predicting value in the early stages can be challenging. This could result in non-core innovation being dismissed prematurely.

6.5 Discussion of the study's method

Following the study's dependence on interviewees' perceptions, the findings will reflect what the participants themselves recognize and communicate to the researchers. This presents an interesting dilemma, given the department's lack of common

understanding regarding various innovation terms. If the subject of non-core innovation is difficult to discuss, as suggested in this case, the identification of challenges based on perception could be difficult. As discussed in 6.1, when interviewees were asked about examples of non-core innovation at the department, they often described sustaining and incremental innovation. This might be an example where perceptional differences between the interviewees and the researchers could affect the result. It might be that the interviewee did not know of any non-core innovations to bring up, indicating that the department is not presently pursuing such innovations. Or it might be because the perception of non-core innovation is different for the interviewee, which could affect the accuracy of the result. When choosing to conduct a perception study, the interviewee can only communicate what they themselves perceive, or what they are asked to explain by the researcher, which might result in some challenges not being identified. Adding to the complexity is the factor of exploring a subject that is not commonly discussed in the department, laying the groundwork for a perception study becomes challenging, as the interviewees may struggle to articulate their thoughts and viewpoints. Given the difficulties encountered with the method used in this study, employing an alternative approach could be beneficial in uncovering additional challenges that may have been overlooked.

7. Conclusion

The purpose of this thesis was to highlight the primary challenges faced by an incumbent firm when pursuing non-core innovation. This was carried out through a case study approach on a multinational technology firm within the automotive industry, regarded as an incumbent. The challenges of non-core innovation were specifically investigated within a department responsible for product strategy at the case company.

The data analysis revealed eight significant challenges confronting the case department within the case company regarding non-core innovation. When further discussing these challenges in relation to theory, three main challenge areas were identified. The first challenge area revolves around difficulties in discussing innovation. This challenge stems from diverse interpretations of innovation terms such as "disruptive innovation", "adjacent innovation", "transformational innovation", and "non-core innovation." Interviewees often found it challenging to distinguish between non-core innovation and sustaining innovation, underscoring the complexity of innovation and a lack of consensus on its various types within the case department. Defining the various types of innovation is challenging due to the multitude of frameworks attempting to do so (e.g., Christensen, 1997; Henderson and Clarke, 1990; Nagji and Tuff, 2012). However, it's crucial for the case department to establish a common language to ensure alignment when discussing innovation. This underscores the need for more comprehensive discussions and workshops to align the understanding of innovation types and their different management strategies.

The second challenge area concerns the dilemma of deciding if and who should drive non-core initiatives at the case department. The study revealed a division of opinion among interviewees regarding whether the department should embrace non-core innovation. While employees emphasized the need to widen the innovation scope further to mitigate risks like disruptions, managers believed the current scope was sufficient. This discrepancy may stem from the perceived higher risk associated with non-core innovation, making managers more cautious about adopting it. Additionally, there is uncertainty about whether the department should be responsible for non-core innovation, with some suggesting they should be handled separately. Literature suggests separating non-core innovation may accelerate its focus and success.

The third challenge area pertains to the practical challenges of driving non-core innovation within the case department. The practical challenges identified include: 1) The impact of reorganization on workload, hindering the pursuit of non-core innovation due to increased operational focus and decreased resources; 2) Core-business activities absorbing resources, leaving little room for non-core innovation; 3) Mindset and motivation issues, with incumbent employees perceiving less incentive for non-core innovation; 4) There is a lack of processes supporting non-core innovation. Additionally, existing processes inhibit non-core innovation, as they are optimized for sustaining innovations; 5) Insufficient resources allocated to non-core initiatives, with

the firm's mechanistic structure favoring efficiency over non-core innovation; and 6) Structural barriers, as the firm's organization is geared towards core products, making it difficult to allocate responsibilities for non-core innovation. Addressing these challenges requires a shift in organizational mindset, resource allocation, and potentially establishing a separate division for non-core innovation development, in line with theories proposed by Nagji and Tuff (2012).

This thesis primarily aimed to investigate the challenges associated with non-core innovation at the case department rather than providing solutions for them. However, by exploring these challenges, it laid the groundwork for future potential solutions. Through data analysis and previous research, six practical recommendations emerged. While these recommendations would require further development before implementation, they can serve as a starting point for future actions:

1. *Get a unified view on whether there should be more focus on non-core innovation.*
2. *Explore and Educate on Various Innovation Theories.*
3. *Find the right balance of resource allocation to core, adjacent, and transformational innovation.*
4. *Establish a workforce with diverse skills and knowledge backgrounds.*
5. *Create a separate unit specifically responsible for non-core innovation.*
6. *Establish a new way to value non-core innovation initiatives.*

7.1 Limitations and Further Research

There are some limitations associated with this study. Firstly, its single-case design narrows the focus to one department within the case company, meaning that the perspectives primarily reflect the employees within that specific department. This limitation may hinder the generalizability of the findings. Additionally, incorporating perspectives from other departments could provide a more comprehensive understanding of the entire case company. Secondly, the study was constrained by a timeframe of approximately four months. This, coupled with the complexity of the case company, may have restricted the depth of analysis and hindered the possibility of gaining a comprehensive understanding of the entire case company. With fewer time constraints, the study could have focused more on exploring solutions, gathering perspectives from several departments, and potentially investigating historically successful non-core innovations and their success factors. Another limitation is the study's methodology, which relies solely on interviewees' perceptions as discussed in section 6.5. Utilizing additional methods might have provided a more comprehensive understanding of the challenges and revealed other challenges that may have been overlooked.

During the study, several opportunities for further research were identified. One avenue could be conducting a multiple-case study to ensure transferability. Additionally,

exploring industry-specific challenges associated with non-core innovation across different sectors could provide valuable insights. As mentioned earlier, this study did not aim to generate solutions to the identified challenges. This was partly due to time constraints, suggesting that exploring solutions could be an interesting topic for further investigation. Additionally, exploring the success factors of historically successful non-core innovations at the case company could generate valuable insights for mitigating the challenges.

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Appendix A. Semi-Structured Interview Template

The authors commenced by introducing themselves and outlining the purpose of the study. Additionally, certain essential information was conveyed to the interviewee to ensure a comprehensive understanding before the interview could start:

a. Interviewees will remain anonymous.
b. The company name will be kept confidential.
c. Recordings were made only with the interviewee's explicit consent.
d. Interviewees retained the right to withdraw their consent to use any provided information at any time during or after the interview.
e. All recordings and associated documents will be securely deleted upon the completion of the thesis.

Introduction - vision, mission & focus

1) Tell us a bit about yourself and your responsibilities, what does a typical workday look like?

2) What types of projects do you work on, what is your role and purpose within the group? What are your deliverables and goals?

3) What does your group work on within the department, what is the purpose of your work? How does your group's work differ from the other groups? What do the other groups do?

4) What is the vision for the department?
   a) How is it communicated?
   b) How is it expressed in your tasks?
   c) Are you familiar with the vision?
   d) Is there consensus within the department regarding the vision?

5) Have there been any changes in the department in recent years?
   a) e.g., with the vision, tasks, structure, collaborations?

6) Are there any initiatives to work more innovatively?
   a) Different initiatives for different types of innovations?

Here core, adjacent, and transformational innovation was described for the interviewee.

7) Have you been involved in driving any core, adjacent, transformational innovation projects?
   a) If so, which ones? Was anything challenging? Financing, time, lack of help from colleagues, inhibiting structure, etc.? What worked well?

b) If not, perhaps ask more about your tasks?

Talent – people, culture & behavior

8) How do you feel about exploring new areas? Scary? Fun? Exciting? Risky?
   a) Core/adjacent/transformational.

9) How do you perceive the reception of an adjacent or transformational idea?
   a) How do people react to those new ideas?
   b) Do you collaborate or do you have to drive projects alone?
   c) Is the reception different from core ideas?

10) What types of ideas capture people's attention?
   a) Which projects do people shy away from? Why?

11) Are there initiatives for training and workshops to increase innovation capability?
   a) Professional development
   b) Is it expected to do it on your own or is time allocated?

12) Would you feel comfortable driving an adjacent/transformational project?
   a) Why? Why not?
   b) What would you need to feel comfortable driving such a project?

Integration – organizational structure

13) Is there a group dedicated to working on adjacent/transformational ideas?

14) How would you proceed if you received a new core idea today?

15) How would you proceed if you received an adjacent/transformational idea today?

16) Who do you turn to if you have an adjacent idea?
   a) Is what you need available within the department or do you need to look externally?

17) Is there a clear process for adjacent/transformational ideas?
   a) How does it differ from core ideas?

Funding – resources

18) Are there resources available to explore adjacent and transformational ideas?
   a) If so, do you know approximately how much of the total resources are allocated to this?

19) Do you have time to work on coming up with new ideas?
    a) If so, what types of ideas?

20) Is there any bonus system or are you rewarded in any way for coming up with a new idea?
    a) If so, what specifically are you rewarded for?
    b) Promotion, monetary rewards, recognition from managers, colleagues?
    c) The number of ideas that go through or how successful the new idea was?

21) Do you feel you have time to be creative or do you have to "fire-fight" instead?

22) Is it considered less profitable to focus on adjacent and transformational as opposed to core?

Pipeline Management – Funnel, screening

23) How does the screening of core ideas work?
    a) Is there screening for adjacent/transformational ideas?

24) Where do you gather ideas for new innovations?
    a) Is it possible to introduce ideas from the outside? Or is the process closed once the funnel starts?
    b) Is the process iterative?

25) How do you work with collaborations?
    a) startups/scaleups
    b) Exploring external actors, are they seen as competitors or potential collaborators?

Metrics

26) What information is important to evaluate an idea?
    a) Does it differ between core versus adjacent/transformational?

27) What aspects do you think would be important to consider when evaluating an adjacent/transformational idea?
    a) Do you think your colleagues feel the same?

Appendix B. Template for Semi-structured Interviews with Managers

The authors commenced by introducing themselves and outlining the purpose of the study. Additionally, certain essential information was conveyed to the interviewee to ensure a comprehensive understanding before the interview could start:

a. Interviewees will remain anonymous.
b. The company name will be kept confidential.
c. Recordings were made only with the interviewee's explicit consent.
d. Interviewees retained the right to withdraw their consent to use any provided information at any time during or after the interview.
e. All recordings and associated documents will be securely deleted upon the completion of the thesis.

Vision

1) What is the department's vision?
2) Do you think that the department should pursue non-core innovation?
    a. If yes. Do you think that the current efforts are sufficient?
3) Do you see any risks with not pursuing non-core innovation?

Daily operations

4) What is the department's responsibility regarding strategy?
    a. How does it compare to the rest of the company?
    b. How does it relate to the other divisions?

Unclear responsibility

5) Do you find it unclear what department is responsible for what?
    a. Why/why not?

Organizational structure

6) Do you see any challenges with the current organizational structure of the department?
    a. Ex. product-oriented groups

Processes

7) What was the aim of introducing industry vertical investigations?
    a. Have they become what you envisioned? What is lacking?
    b. What have been the challenges with these new processes?

Reorganization

8) What was the aim of the reorganization?
9) What is the plan after the reorganization?

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