

# Developing Dynamic Capabilities in Early-stage Tech Startups

A Qualitative Case-study of How VRIN Resources  
and Product-led Growth Influence Dynamic  
Capability Development

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**August Hammarlund Gunterberg**

**Maja Lindholm**

Supervisor: Olga Yttermyr

## Acknowledgements

First and foremost we want to thank the company Talendary for allowing us to deep-dive into their organisation in order to be able to analyze their internal ways of working. We want to thank them for agreeing to be interviewed and also for the time that they all put aside to make the interviews possible. We direct a special thank you to the COO of Talendary, André Nilsson for providing us with all of the necessary information but also for organizing the interviews and inviting us to their office. We also want to thank our supervisor, Olga Yttermyr, for directing us on to the right path of research and providing us with consistent advice throughout the whole process of writing this thesis. Lastly we want to thank all of the participants from our seminar-group that gave us interesting insights and opinions about the topic this thesis explores throughout the process of writing.

# Abstract

## Developing Dynamic Capabilities in Early-stage Tech Startups *A Qualitative Case-study of How VRIN Resources and Product-led Growth Influence Dynamic Capability Development*

This thesis investigates the roles of internal resources and product-led growth strategy in an early stage tech startup's ability to develop dynamic capabilities through a single case study on the company Talendary. The purpose of the thesis is to explore how dynamic capabilities are developed in an early-stage tech startup operating in an emerging market, with particular attention to how internal resources, such as VRIN resources, and the product-led growth (PLG) strategy may influence dynamic capability development. By identifying gaps in both VRIN resources and dynamic capabilities, the thesis aims to contribute with broader insights into how dynamic capabilities are developed in early-stage tech startups. The two research questions that will be answered are the following; *1. What gaps in VRIN resources and dynamic capabilities can be identified in the case of an early-stage tech startup? 2. How do internal resources, such as VRIN resources, and the product-led growth strategy influence the development of dynamic capabilities in early-stage tech startups?*

The theoretical framework consists of Teece's "Dynamic capabilities" (1997, further developed 2007) and "The resource based view" (Barney, 1991). To answer the two research questions, qualitative data were gathered through five semi structured interviews held together with five different chiefs at Talendary. The interviews were recorded and later transcribed, which afterwards were analyzed through a thematic analysis based on three recurring themes: *Internal resources, Dynamic Capabilities and Product-led growth strategy*. These themes also served as the foundation of creating the interview guide, to maintain a clear structure.

The findings suggest that there were gaps in internal resources looking through the scope of the VRIN model but still, the firm had managed to develop all dynamic capabilities described by Teece (2007) and further developed by Lin and Wu (2014). It could be concluded that one of the main drivers in developing dynamic capabilities were the organizational culture which best can be described as "very open to change", but also by trust and fostering continuous feedback and internal alignment. It is also concluded that the product-led growth strategy influences the dynamic capability development as the product-centric strategy could be seen as enhancing these capabilities in different ways. Finally, the thesis presents new findings and contributes to the understanding that dynamic capabilities can be developed not only through VRIN resources, but also through other factors such as social and cultural ones, and most especially for this case, a strong organizational culture described as "very open to change".

**Keywords: Dynamic capabilities, Internal resources, VRIN, Product-led growth strategy, Early-stage tech startup.**

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# Chapter 1 - Introduction

This chapter introduces the overall topic that the thesis will examine. The first part is the background of the thesis, including relevant information about the case company Talendary. The chapter also presents a problem statement including previous research to show awareness of existing knowledge within the area of research. This is followed by presenting the research gap that leads into the purpose and research questions of the thesis. Lastly, the chapter includes both theoretical and practical contributions, explaining how the thesis aims to provide insights for early-stage tech startups.

## 1.1. Background

The world is changing and the pace of digitalization is rapidly increasing, where technological advancements reshape a lot of businesses, which makes it crucial to understand the role of this digital transformation within companies (Al-Alawi, Munir and Munir, 2023, p. 1). Technology-based startups using AI are growing worldwide, mostly in emerging economies, where the potential of innovation and flexibility is the main driver (Kumar and Dwivedi, 2023, p. 2). AI is integrated to improve efficiency and take advantage of its potential, while some startups are building entirely new products within AI. As these innovations grow, new markets start to form, where early-stage startups must adapt quickly to be able to operate in these evolving markets. This has to be done not only by focusing on external market factors but also by looking inside, shaping and building the internal resources and dynamic capabilities of the companies. Along with this shift, more companies start to rely on data-driven decisions in their daily work to enhance tasks (Brynjolfsson, Hitt and Kim, 2011, p.3). Additionally, Teece (2007, p. 1320) argues that it is especially important to be able to operate dynamically in markets that are associated with high-paced technological change.

One emerging business strategy used in IT companies is the product-led growth PLG strategy, where the product itself drives user acquisition and is central for expansion. Widlund (2021, p. 6) explains product-led growth as an alternative to more traditional approaches, in an emerging world where both expectations and behaviours are continuously changing. It can also be explained by the product becoming the center of the business, working as the main customer acquisition tool (Morris, 2020). Since the product is the center, it is important to understand how internal resources and dynamic capabilities are used and aligned to support the product. For early-stage tech startups, this is especially important since they often operate in uncertain market conditions with limited resources.

This also raises new questions about how such startups manage internal resources and develop dynamic capabilities. Frameworks like VRIN and the dynamic capabilities theory explains concepts about firm performance and adaptability, where VRIN focuses on firm-specific resources (Barney, 1991), and DC more on how firms can adapt resources in response to change (Teece et al., 1997). Both frameworks have been used as important frameworks in strategic management, but empirical research on how they apply to early-stage tech startups, is still limited. Furthermore, as many

startups today use emerging business strategies such as product-led-growth (PLG), it becomes more important to understand the internal factors more deeply. Lin and Wu (2014, p, 407) states that “most scholars” believe that dynamic capabilities increase competitive advantage but further explains that the topic becomes increasingly complex when combining dynamic capabilities together with the resource based view. This thesis explores this by a case-study of an early-stage tech startup, with the aim of contributing with insights about how VRIN resources and dynamic capability gaps are identified, how dynamic capabilities are developed through the influence of both VRIN resources and strategic approaches like PLG.

### 1.1.1. Collaborative Company - Talendary

The rapid growth of AI technology and the shift towards digital recruitment tools have created a new market segment for early-stage tech startups. One company operating in this segment is Talendary, a Stockholm-based tech-startup that develops AI-driven tools for automating parts of the recruitment process. Talendary's mission is to revolutionize talent acquisition by simplifying and accelerating recruitment workflows through AI and automation, ensuring companies secure the right talent at the right time. Their vision is to become the most trusted AI-driven partner for organizations looking to streamline their hiring processes and unlock the full potential of their recruitment teams.

(Talendary, 2025)

As a company operating in an emerging and fast-changing segment, Talendary exemplifies the challenges that arise when trying to grow under uncertainty. In particular, the company follows a product-led growth (PLG) strategy. This strategic choice adds an extra layer of complexity in terms of how the PLG strategy may influence the dynamic capability development in early-stage tech startups.

## 1.2 Problem Statement

To motivate and define the problem statement and research gap this thesis aims to address, the first part of this section is presenting relevant previous research. This is done to outline existing knowledge in the field of study, as well as present findings and limitations that have been presented before. By outlining previous research within both the VRIN framework and dynamic capabilities, a research gap is presented to clearly lead the thesis into the problem statement.

### 1.2.1. Dynamic Capabilities - A Topic Worthwhile

Since 1991 when the “resource based view” and 1997 when the “dynamic capabilities” theories were introduced and popularized there has been extensive research and further development into these theories. The original papers have been cited 111430 and 57490 times according to google scholar, which shows a huge interest in this field of research. For example, Rinthaisong and Duangtong (2024) examined 170 tech-startups in Thailand by investigating the link between a firm's “dynamic capabilities” and its ability to survive on the rapidly changing market. The study concluded that dynamic capabilities had no direct effect on the firm's survival, but both innovation and dynamic

capabilities had a significant positive effect on the firm's competitive advantage. The study also showed that dynamic capabilities played a positive role in helping startups navigate dynamic environments, as well startups can amplify the impact of innovation by enhancing their dynamic capabilities, supporting a more adaptive approach to uncertainty. (Rinthaisong and Duangtong, 2024) The conclusion was that start-ups have a better chance of survival when they develop a competitive advantage, employ and encourage innovation, and implement dynamic capabilities. (Rinthaisong and Duangtong, 2024, p. 988) The fact that this positive correlation between competitive advantage and dynamic capabilities in tech startups was found makes this field of research more practically valuable, as it shows the significant relevance of studying how startups build and use their dynamic capabilities in practice.

Similarly, Zabel et al, (2023) analyzed how 14 VR-companies were using different capabilities and activities, related to the dynamic capabilities framework (2007). They concluded that amongst the three different types of dynamic capabilities, the most important for a company operating in a dynamic market such as the technological one, is the “sensing capabilities” (Zabel et al. 2023, p. 15). In a study by Li et al, (2025), aiming to further explain the findings from Zabel et al (2023) they investigated the distinct effects of market-sensing and technology-sensing on start-ups product innovation. The study found that the “market-sensing” capability has a more significant positive effect on start-up companies confirming the previous findings.

### 1.2.2. VRIN and Dynamic Capabilities in the PLG Context

It is common amongst previous studies to make connections between the VRIN framework and the dynamic capabilities theory. A study by Lin and Wu (2014, p. 411) found that resources of VRIN character can have a positive effect on a firm's performance and results. More relevant for this thesis, the study found that VRIN resources have a positive effect on a firm's ability to develop dynamic capabilities while non-VRIN resources have an insignificant effect in the regard of developing dynamic capabilities. The study also concludes that dynamic capabilities act as a mediator, enabling firms to adapt and use their VRIN resources in order effectively to improve firm performance and navigate dynamic changes (Lin and Wu, 2014, p. 411).

However, more recent research has also questioned the validity of the VRIN framework on its own. A study by Bhandari et al. (2023, p. 375) introduces the question: Why are VRIN resources alone not enough for sustainable firm performance? It is concluded that by adding another framework, in their study the “attention based view”, the results regarding sustained performance are more reliable and explained more precisely. That is why this thesis uses two theoretical frameworks, even though the VRIN framework is not complemented with the attention based view. This thesis intends to combine the VRIN framework and Dynamic capabilities framework in order to explain concepts more precisely.



Although research has been done there is a very limited amount focusing on start-up companies and even less when narrowing it down to the IT-sector. If narrowing it down even further, to the Scandinavian region, the research in the field of VRIN resources and dynamic capabilities is close to non-existing. While the PLG-strategy becomes more popular internationally, it remains a relatively new strategic approach in Sweden. Previous studies, such as Widlund (2022, p. 53) explains a need for further empirical exploration into how PLG is used in practice, and particularly in early-stage companies. This thesis contributes to that gap by exploring how dynamic capabilities are used and developed in the case of a Swedish early-stage tech startup using a PLG strategy.

### 1.2.3 Research Gap - Dynamic Capability Development in Early-Stage Tech Startups

As digital transformation within companies striving to stay competitive are growing, (Al-Alawi, Munir and Munir, 2023), many firms start to rely on technological capacities to be able to respond to uncertainty and shifts in the market. This might also include facing new problems and challenges, both internally and externally. This digital transformation affects and reshapes not only business models but also internal structures and processes, making it crucial to understand the importance of being adaptable (Al-Alawi, Munir and Munir, 2023, p. 1–2). Early-stage tech startups are especially exposed to this since they operate in dynamic and fast-changing markets, continuously facing internal and external challenges. For those working with product-led growth (PLG) strategy, where the product drives user acquisition, developing dynamic capabilities early on is particularly important to manage uncertainty and meet market demands.

Previous studies have mostly focused on larger firms studying either resources through VRIN or how dynamic capabilities contribute to firm performance. As cited by Barney (2001, p. 631), studies by Eisenhardt and Martin (2000) as well as a study by Fiol (2001) makes the conclusion that a firm cannot sustain competitive advantage in a dynamic and changing market. Since the VRIN framework and the dynamic capabilities theory both are supposed to act as guidelines for how companies can achieve sustained competitive advantage, these conclusions can be seen as rather pessimistic. Furthermore, observing successful companies that have managed to stay competitive for longer periods of time seems to contradict this conclusion. However, this thesis is not exploring whether these conclusions can be supported or not, but rather taking one step back and looking at how these supposedly “competitive advantage generating capabilities” are developed internally. The problem then becomes that prior research does mostly not point out how these capabilities are developed but instead stating which capabilities are desirable, contributing with a limited practical value.

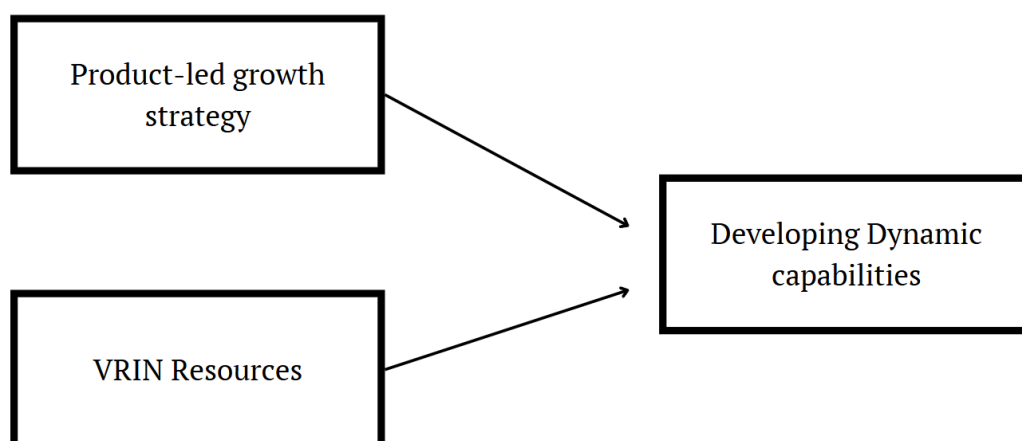
Additionally, prior research has often focused on concepts that explore outcomes, such as performance or competitive advantage, but not that much about the practical part about identifying internal resource and dynamic capability gaps and how firms adapt accordingly over time. While some newer studies, such as Al-Alawi, Munir and Munir (2023), explored key aspects of

competitiveness for startups using artificial intelligence (AI) technologies, most research still focuses more on large companies with more resources, not being applicable to smaller startups with often limited resources. This creates a need to provide a better understanding of how early-stage tech startups develop dynamic capabilities, as well as how strategies like product-led growth and internal resources, such as VRIN resources, may influence this. Therefore, this thesis addresses this gap by exploring how such early-stage tech startups navigate internally and develop dynamic capabilities, as well as to what extent VRIN resources and the PLG strategy might affect this.

It is also important to clarify that the findings of this thesis are not aiming to be broadly generalizable, but rather to provide more in depth, context-specific insights that may be transferable to other early-stage tech startups or companies operating in similar emerging environments. By clearly addressing this and positioning the scope of generalizability of the thesis, the authors aim to contribute to a deeper understanding of dynamic capability development and the influence of both internal resources, such as VRIN resources, and the PLG-strategy.

### 1.3. Purpose and Research Questions

The purpose of the thesis is to explore how dynamic capabilities are developed in an early-stage tech startup operating in an emerging market, with particular attention to how internal resources, such as VRIN resources, and the product-led-growth (PLG) strategy may influence dynamic capability development. By identifying gaps in both VRIN resources and dynamic capabilities, the study aims to contribute broader insights into how dynamic capabilities are built and developed in fast-changing environments.



*Figure 1, Investigating concept of the thesis, Selfmade.*

#### **Research questions:**

1. What gaps in VRIN resources and dynamic capabilities can be identified in the case of an early-stage tech startup?
2. How do internal resources, such as VRIN resources, and the product-led growth strategy influence the development of dynamic capabilities in early-stage tech startups?

## 1.4. Contributions

### 1.4.1. Theoretical Contributions

There are limited studies on the interconnection between internal resources, such as VRIN resources, and dynamic capabilities in early-stage tech startups, especially in Swedish organizations, as existing studies tend to focus on either larger companies or by isolating the frameworks. Additionally, studies focusing on early-stage tech startups using a product-led growth strategy are rare to find, especially in combination with dynamic capability development in early stages. By exploring how a Swedish early-stage tech startup develops and applies dynamic capabilities in practice, the narrowed approach of the thesis addresses the theoretical gap clearly. This will bring deeper insights into how these internal resources and dynamic capabilities work together as well as how they evolve in response to strategic changes and uncertainty, offering a more nuanced understanding of the theories.

Although the thesis is based on existing theoretical frameworks, contribution to already existing theories can serve an important purpose, since new findings can develop existing knowledge and deepen the understanding of theory (Bell et al. 2019, p 5). Rather than aiming for broad generalization and conclusions, the thesis contributes by providing context-rich insights that may be relevant and transferable to similar early-stage tech startups.

### 1.4.2. Practical Contributions

From a practical point of view, this thesis hopes to contribute with a better understanding of how dynamic capability development works in practice, and if and how internal resources, such as VRIN resources, and the PLG-strategy might affect this. By this being the initial focus of the thesis, the goal is also to give practical insights that may be useful for early-stage tech startups, or similar companies, having internal challenges related to factors such as growth, adaption and alignment.

The thesis also hopes to contribute with a broader practical understanding of the product-led growth strategy's role in an early-stage tech startup. By examining the strategy as a possible factor of developing dynamic capabilities, a deeper understanding and practical insight in how it can be used is being sought. It may also highlight common practical challenges with the strategy, which can provide helpful guidelines and reflections for companies operating with PLG.

Although the findings are based on a single case, the aim is to contribute with practically relevant insights for early-stage tech startups, especially those operating under a PLG strategy, but also for similar practical contexts. The aim is therefore not to provide broad generalizable recommendations or practical conclusions, but rather to offer actionable insights that can be helpful for early-stage tech startups operating in emerging markets with a need of strengthening internal capability development.

## Chapter 2 - Theoretical Framework

This chapter aims to provide a theoretical framework used to identify internal resources, such as VRIN resources, and dynamic capabilities. Furthermore, it also aims to provide a foundation for later analyzing how the dynamic capabilities are developed in the early-stage tech startup. The framework combines the VRIN framework (Barney, 1991) and the dynamic capabilities framework (Teece et al., 1997) to analyze both the internal resources and dynamic capabilities. The VRIN framework is used to explore which internal resources, such as VRIN resources, are needed, and which are missing in this case-study, addressing the first research question regarding gaps in resources.

Furthermore, the dynamic capabilities theory is used to complement this by aiming to explore how the firm develops dynamic capabilities in a changing business environment. In contrast to the resource-based view and especially the VRIN framework, the dynamic capabilities theory provides a perspective that shifts focus from what a firm has to what a firm can do over time. Finally, by using these two frameworks in this case-study it enables a deeper understanding of how early-stage tech startups handle internal resource and dynamic capability needs in an emerging market.

### 2.1. The VRIN-Framework

The resource based view is a strategic management theory that emphasizes the role of internal resources in achieving sustained competitive advantage. Previous research mostly focused on external factors that could result in giving a competitive advantage such as opportunities and threats in the market by Porter (1985) and Rumelt (1984). This theory was developed by Jay Barney (1991) and it includes different explanatory models such as the VRIN model that looks internally into a firm's resources. The VRIN model in itself explains which characteristics a company should aim for their resources to possess. VRIN stands for; Valuable, Rare, Imitability and Substitutability. The original purpose of these four criteria is to use resources of sustained competitive advantage, while in this thesis, the VRIN model is used to explore which internal resources are present, lacking and how they might affect dynamic capability development.

#### **Valuable resources:**

Barney (1991, p 106.) means that resources and attributes are only valuable when they enable a firm to create or implement strategies that improve the organization's efficiency or effectiveness. This is a key part for resources to be able to contribute to an organization that can sustain competitive advantage. The framework also states that the firm attributes must be considered to be valuable to even be considered a resource.

#### **Rare resources:**

According to Barney (1991, p 106 - 107), a resource is considered rare when the firm uses a value creating strategy that is not implemented by a large number of other firms simultaneously. If a

valuable resource is possessed by multiple firms they all have the capability of exploiting the resource in the same way and therefore none of these firms have a competitive advantage because of this. It is further explained that multiple firms can possess a resource and it can still be considered to be rare, as long as the number of firms is less than the number of firms needed to generate perfect competition on a market (Hirshleifer, 1980, as cited in Barney, 1991, pp. 106–107). Usually all strategies require a mix of different types of resources to successfully implement but one that almost always is necessary is managerial talent (Hambrick, 1987, as cited in Barney, 1991, pp. 106–107).

### **Imperfectly imitable resources:**

Barney (1991, p. 107 - 110) explains that certain resources are more valuable and strategically significant if they are difficult for other firms to replicate. According to Barney there are only three reasons a resource can be perfectly imitable which are the following;

- 1 - The ability of a firm to obtain the resource is dependent on a unique historical condition.
- 2 - The link between the resources possessed by a firm and a firm's sustained competitive advantage is causally ambiguous.
- 3 - The resources generating a firm's advantage are socially complex.

### **Substitutability of the resources:**

This is the last requirement in order for a firm's resources to be a source of sustained competitive advantage and it means that there must be no strategically equivalent valuable resources that are themselves either not rare or imitable. One type of substitutability is the fact that although a firm might not be able to copy a resource directly the firm might be able to create a similar resource that is of the equivalent value for the firm's strategy, which thereby is not a source of competitive advantage. It is further stated that substitutability is a matter of degree and often there will be some sort of substitute that will have some of the effects as another resource might have. If other resources are substitutable, not rare or inimitable enough so that other companies can acquire these, then no firm can expect to sustain a competitive advantage (Barney 1991, p. 111).

## **2.1.2. Linking VRIN and Dynamic Capabilities**

Since Barney's original work (1991) there has been extensive research done where resources have been linked with dynamic capabilities (Barney, 2001, p 630). This research began to focus more on the firm's ability to alter and adapt its resources and reconfigure them in response to changing business environments, which is a central element now defined as dynamic capabilities. (Eisenhardt and Martin, 2000).

To get a broader understanding of how firms manage and navigate dynamic conditions, multiple studies have been linking the VRIN-framework with the dynamic capabilities theory. One study by Lin et al (2014, p. 411) found that resources of VRIN character can have a positive effect on a firm's performance and results. The study also found that VRIN resources have a positive effect on a firm's ability to develop dynamic capabilities while non-VRIN resources have an insignificant effect in the

regard of developing dynamic capabilities. The study concludes that dynamic capabilities act as a mediator, enabling firms to adapt and use their VRIN resources in order effectively to improve firm performance and navigate dynamic changes. While competitive advantage and firm performance is a big theoretical motivator for both frameworks, this thesis primarily focuses on exploring how these dynamic capabilities are developed and what gaps may exist, to understand how early-stage tech startups manage internal resources and how these might affect dynamic capability development.

## 2.2. Dynamic Capabilities Framework

The concept of the Dynamic Capabilities framework was first introduced by David J. Teece, Gary Pisano, and Amy Shuen in 1997, to explain how firms adapt, develop, and reconfigure internal capabilities and resources in rapidly changing environments (Teece et al., 1997, p 509). The term dynamic refers to adaptation and change in response to rapidly changing environments, while capabilities refers to how firms use management to reconfigure and develop their internal resources (Teece et al., 1997, p 515). While models like VRIN focus more on sustaining existing resources, dynamic capabilities emphasize a firm's ability to adapt and innovate in response to changing environments. Traditional strategy models such as VRIN are therefore limited in explaining how firms manage internal development and respond to uncertainty in fast-evolving markets, particularly those shaped by technological change and innovation (Teece et al., 1997, p. 509).

To address this gap, the Dynamic Capabilities framework can be used to focus on how firms adapt and reconfigure their resources and capabilities to work in dynamic markets. The framework is not only valuable for future academic research, but also as a practical tool for managers in fast-changing environments where there is a need to navigate dynamic capabilities (Teece et al., 1997, p 510). This makes it suitable for analyzing early-stage tech-startups operating in emerging markets, where the focus is not only on what a firm has but also on how it can develop and use its capabilities.

To understand what factors shape a firm's dynamic capabilities, Teece et al. (1997) introduced the Processes-Positions-Paths (PPP) framework. This model suggests that the competitive advantage derives from its managerial and organizational processes, influenced by its asset position and the available strategic paths. These three dimensions: processes, positions, and paths, works as a foundation for understanding how these capabilities emerge and evolve over time. (Teece et al., 1997, p 518) However, while this model offers a solid base and valuable insights into how firms are shaped by routines, assets, and strategic paths, it does not fully explain how dynamic capabilities are put into action or applied by firms. This makes it crucial to use a more process-oriented perspective to understand how it works in practice. For that reason, this thesis adopts the developed framework by Teece (2007), called the SST model, which shifts focus from contextual conditions towards a more actionable approach.

### 2.2.1. Types of Dynamic Capabilities

There are many different types of dynamic capabilities, where these three are most central to this thesis:

*Learning capabilities*, allow firm's to absorb and apply knowledge from both internal and external sources. This can involve mechanisms such as knowledge acquisition, human resource development or employee training (Lin and Wu. 2014, p 408). The authors findings show that learning capability is often seen as the most significant mediating factor between valuable resources and performance (Lin and Wu. 2014, p 411).

*Integration capabilities*, which refer to combining and coordinating different internal and external resources in an effective way. An example is integrating insights from different areas of the firm to refine performance, such as cross-functional collaboration between the sales team and the product team. This enables alignment between strategic objectives and the resource base. (Lin and Wu. 2014, p 408)

*Reconfiguration capabilities*, which is the firm's ability to restructure assets and organizational structure to better fit changing conditions. These are especially important in markets with uncertainty, such as the tech-startup environment (Lin and Wu. 2014, p 408).

These three types of dynamic capabilities are particularly chosen for this thesis, since they all reflect the internal processes that firms deal with in fast-changing environments. However, these only describe what firms need, not fully how they should be developed or put into action.

### 2.2.2. Sensing-Seizing-Transforming (SST) Model

According to Teece (2007, p 1320), dynamic capabilities refer to the firm's ability to sense, seize, and transform in a fast-changing environment, where the three activities are not isolated but interact dynamically. Given the purpose of this thesis; to explore how dynamic capabilities are developed in an early-stage tech startup using a product-led growth (PLG) strategy the SST model provides a more actionable and practically applicable structure for the analysis. It allows for examining not only what capabilities firms rely on, such as learning or integration capabilities, but also how they identify needs (sensing), respond to it with strategic decisions (seizing), and how they adapt their internal routines over time (transforming).

**Sensing** can be understood as the firm's ability to identify and analyze external signals, such as shifts in customer preferences, technological advancements, or emerging market trends. This activity can be explained as interpretive, as it not only relies on collecting external information, but also requires continuous investment in learning and information capabilities, such as engaging with users, competitors, and industry trends to be able to sense if and when conditions shift. (Teece.

2007, p. 1322) Furthermore, sensing is not only about observing external signals, but also interpreting them through integrated processes, that requires both individual insight and organizational support structures (Teece, 2007, p. 1323). The concept of sensing is also including an internal aspect by addressing the internal identification of capability needs. In other words, how firms recognize which internal capabilities are lacking or in need of development when considering the external environment.

**Seizing** refers to the strategic decisions that the firm takes regarding where to mobilize resources, after sensing the opportunity. While sensing is about seeing and identifying the opportunity, seizing is more about doing something about it, which makes them significantly connected (Teece, 2007, p 1326). Seizing can involve developing new products, services or other internal resources to capture value from the already identified opportunity. Firms often face multiple competing paths early on, such as choosing between focusing on growth approaches or investing in technologies, where they have to make decisions of where and when to commit. (Teece, 2007, p 1326) The timing of these decisions is affected by which position the firm's currently in. Teece (2007, p 1326) notes that companies with strong assets may be able to wait and observe with these decisions, while those with weaker positions may need to act more directly.

Furthermore, seizing is not only about choosing when and where to invest, but also about decision-making under uncertainty, while aligning internal capabilities with external signals (Teece, 2007, p 1326). A part of this involves designing an appropriate business model, shaping how value is captured and determining how a firm's products or services are scaled. (Teece, 2007, p 1327) This is an important key part as it highlights the need to not only choose what to invest in but also consider the value, although the relevance can vary across different firms. In practice, it has been shown that firms may fail to seize opportunities due to internal barriers, such as routines and decision-making structures (Teece, 2007, p 1327).

The third area of the SST framework is **transforming**, which can be described as a firm's ability to reconfigure and recombine organizational routines and internal structures, to align with a dynamic environment (Teece, 2007, p 1335). In contrast to seizing, transforming is more about the firm's long-term adaptability rather than the choices made upon sensing opportunities. This can involve changing organizational structures, reallocating existing resources or creating completely new capabilities, ensuring it aligns with shifting environment conditions. According to Teece (2007, p 1335) an important factor to sustain dynamic capabilities is the leadership ability to manage these changes, often through decentralization or continuous improvement and reconfiguration of both assets, systems and roles. Startups often need to innovate while simultaneously adapting their internal setup to stay aligned with emerging market changes (Pigola, da Costa, van der Poel and Yamaçake, 2022, p. 3) This process can be closely linked to learning-capabilities such as knowledge acquisition, which highlights the ability to gather and apply new insights to support decision-making to further on be able to reconfigure internally (Chin et al. 2016, cited in Pigola et al. 2022, p. 19). Startups may already possess certain internal capabilities, but it is the practical actions of using



dynamic capabilities that enables startups to adopt different paths strategically (Liotino et al., 2016, cited in Pigola et al., 2022, p 18).

In this thesis, the SST framework is used to analyze if and how early-stage tech startups identify, develop, and adapt internal capabilities in fast-changing markets. Sensing works as an important perspective for early-stage tech startups, since strategic opportunities often arise faster than internal structures can evolve. More specifically, startups may see a lot of opportunities, but lag behind in their internal capability to react. Sensing is therefore important to understand how they internally identify what they need to create or improve, which is central to the first research question, concerning the gap between capabilities that are present and those that are missing.

Seizing is relevant as they often operate with limited resources and need to act more quickly than more established firms. This makes seizing, as a part of dynamic capabilities, a critical tool for analyzing how tech startups respond to external opportunities and internal challenges. Finally, transforming aligns with the thesis as early-stage tech startups often go through stages where they transition from more informal to formal organizational structures. Hence, transforming works as a framework to analyze how firms can work proactively to shape internal capabilities to align with the PLG-strategy over time. To conclude, dynamic capabilities in relation to internal forces, such as how firm's acknowledge and act upon capability needs, may serve as an important factor in operating in a fast-emerging market while creating value, such as the tech-startup one (Pigola et al., 2022, p. 20).

## 2.3. Summary of Theoretical Framework

To conclude, the theoretical framework combines two central theories: VRIN framework (Barney, 1991) and the dynamic capabilities framework (Teece et al., 1997, 2007). The integration of both these frameworks creates a dual perspective, where the focus is not only on internal resources, such as VRIN, but also how they, together with the PLG strategy, may affect the development of dynamic capabilities.

The VRIN framework is presented to explore the criteria of internal resources, specifically whether they are valuable, rare, inimitable, and non-substitutable. The perspective is also used to identify potential gaps in these internal resources, as well as which are present. These internal resources are important, but not sufficient when discussing companies operating in environments defined by rapid change. Therefore, to further develop the theoretical framework, the dynamic capabilities perspective is essential and used to focus on how firms adapt and respond to change over time. The thesis includes both different types of dynamic capabilities, more specifically learning, integration, and reconfiguration, as well as the sensing-seizing-transforming (SST) model. By including dynamic capabilities, it acts as a mechanism to activate and use internal resources, which makes it a complement to VRIN. Together, these two areas of the framework help explore how firms identify opportunities, act on them, and transform internally over time.

## Chapter 3 - Methodology

The methodology chapter will cover the foundation of the thesis, including research approach, research strategy, sample selection and data collection techniques. It will also provide information about the reliability, validity and trustworthiness. Furthermore, any ethical challenges and limitations considered during the thesis are presented to provide transparency and clarity.

### 3.1. Research Approach

This thesis has been conducted with an abductive research approach, with the aim of thoroughly examining the problem statement by moving between chosen theories and empirical findings. Abduction works as an alternative to both inductive and deductive reasoning, as it allows for an iterative process between empirical observations and theoretical concepts (Bell, Bryman and Harley, 2019, p. 24).

The deductive approach can be explained to start with clear theoretical hypotheses that are being tested against empirical findings (Alvehus, 2019, p.113). In other words, deductive reasoning is a way of working with existing theories as a base where the hypotheses can be either confirmed or denied through statistical inference tests (Bell et al. 2019, p. 24). One limitation of this approach is that the hypothesis can change as new information becomes available, which makes it difficult to rely on forming a true hypothesis from the start (Bell et al. 2019, p. 21). The deductive reasoning as an approach is not suitable for this thesis since hypotheses are not going to be tested.

Another approach is the inductive reasoning where theory is the outcome of research, rather than basing the research on existing theories. The research and conclusions are formed through collecting empirical data. (Bell et al. 2019, p. 23) One difficulty with this approach is that although the findings may be interesting, the theoretical relevance can be unclear or hard to establish (Bell et al. 2019, p 23). Furthermore, this approach is not the most relevant in this thesis since it is based on already existing theories rather than generating theory from empirical data.

Because of the critics of both deductive and inductive reasoning, the need for another approach is critical in this research. The chosen abductive research approach is particularly suitable for exploratory studies, where the goal is not to test predefined hypotheses or generate theory purely from data, but rather to develop nuanced insights by integrating existing theory with real-world findings. The flexibility in moving between theory and empirical findings aligns with this thesis, where the research does not begin with a fixed hypothesis or aiming to create a new theory. Instead, the thesis will gather insights from Talendary to understand these in relation to existing theories suitable to explore startup growth, internal capabilities and PLG strategies. Furthermore, the empirical understanding will grow through interviews, which makes the movement between empirical findings and theory essential to interpret the findings.

### 3.2. Research Strategy

A qualitative research strategy has been selected for the thesis, as it allows for more in-depth exploration of the research (Bell et al. 2019, p. 377). While a quantitative strategy is more about collecting and analysing numbers, the qualitative approach gives more room for analysing words and reasoning (Bell et al. 2019, p. 376). The qualitative approach also enables the researcher to get a closer involvement with the investigated people, particularly with interviews, which is appropriate when the aim is to understand meanings and perspectives from the participants (Bell et al. 2019, p. 377). This thesis requires a deep understanding of how dynamic capabilities evolve and form in the specific organization, which makes qualitative research more fitting in terms of conducting interviews with the participants as well as analysing complex reasoning.

The thesis is also using a single-case design, as it is focused on one early-stage tech startup, as a base for the analysis. More specifically it adopts an instrumental case study, where the case is used to understand broader concepts and gain insights that can actually be generalizable (Bell et al. 2019, p. 64). While single-case studies can be questioned in terms of generalizability, Flyberg (2006, as cited in Bell et al. 2019, p. 65) argues that this is a common misconception. Case studies are not necessarily meant to produce statistically generalizable results, but rather to provide deep insights and concept-dependent knowledge (Bell et al. 2019, p. 65). The goal is therefore to use the uniqueness of the single case company as a basis to develop and provide a deep understanding of broader dynamic capability development in similar firms.

### 3.3. Sample Selection

The thesis conducted a generic purposive sampling selection, where the participants were chosen based on their relevance to the goals of the research and the research questions (Bell et al. 2019, p. 391). Therefore, the chosen participants; employees and the CEO, were all intentionally chosen to provide relevant insights into the company's internal resources and dynamic capabilities. The reason for it being only participants in the leading-department, such as CFO and CTO, is because they have an overall understanding of the company and a greater picture of the resources and capabilities used. The company consists of 10 employees in total, excluding partners and investors, which also made the choice of participants more limited. Since the COO was assisting the authors in identifying relevant employees best fitted to contribute to the thesis with different perspectives, it also included elements of snowball sampling (Bell et al. 2019, p. 395). The combination of these two strategies allow for both theoretically relevant and practically available participants, ensuring that the thesis captures all important perspectives that can contribute to the findings.

The sample size can differ between different qualitative studies, but it should not be so small that it makes it difficult to demonstrate theoretical saturation, or so large that it is difficult to undertake a deep analysis (Onwuegbuzie and Collins. 2007, p. 289, cited in Bell et al. 2019, p. 397). Therefore, the sample size of this thesis was five interviews, to not under- or overdo the amount of interviews.

The importance here lies in the justification for the chosen sample size in relation to the research purpose and goals, not the number of interviews. The authors estimated that the decided number of interviews was enough to gather enough information for the thesis.

The five interviewed workers are all working in the company's management team, with the following roles; CMO, CTO, CFO, COO, and CEO. This is a relatively homogenous group, as they all operate and work within similar roles and contexts. In qualitative research, a more homogenous sample can be preferable when the aim is to draw comparisons between individuals with similar characteristics, that together can provide answers in the same context (Alvehus. 2019, p 73). In this thesis, the homogenous sample ensures that the participants are all in relevant fields, aligning with the research questions, so that they can answer questions regarding internal challenges and strengths regarding dynamic capabilities and internal resources. This makes the homogenous approach suitable considering the internal focus of the company. The following figure shows each respondent by role as well as how long they have been working in the company, as well as their educational background.

<b>Respondent</b>	<b>Role</b>	<b>Education</b>	<b>Years at talendary</b>
R1	COO (Chief operating officer)	MSc in Industrial Engineering and Management.	~ 1 year
R2	CTO (Chief technology officer)	Game Development - Design.	~ 1.5 years
R3	CMO (Chief marketing officer)	MSc in Industrial Engineering and Management.	~ 0.5 years
R4	CEO (Chief executive officer)	MSc in Industrial Engineering and Management.	~ 2 years
R5	CCO (Chief commercial officer)	MSc in Industrial Engineering and Management.	~ 1 year

*Table 1, Respondents and roles at Talendary, selfmade.*

## 3.4. Data Collection

### 3.4.1. Semi-Structured Interviews

The primary method for data collection has been done by semi-structured interviews of five employees of Talendary, including the CEO. Semi-structured interviews consist of predetermined questions, structured in an interview guide, while still allowing for flexibility in asking follow-up questions and specifying relevant areas if needed (Bell et al. 2019, p 211). In other words, this form of interviewing is characterized as flexible and suitable when there is a need for in-depth collection of information (Bell et al. 2019, p 436). In this thesis, the semi-structure allows respondents to reflect freely on their experiences related to the dynamic capabilities of Talendary, which enables for deeper insights and results. The interviews consist of both open and close questions, to gather a broad range of information that is needed for the thesis. They are also recorded and transcribed directly, which is important to ensure that the participants' answers are captured correctly in their own words (Bell et al. 2019, p 440). The number of interviews conducted is based on the size of the organization and the limited time, although more interviews potentially could have given a bigger perspective. However, gathered data collection was sufficient to address the research questions and generate relevant insights.

### 3.4.2. Interview Questions

The interview questions asked during each interview were all the same for every respondent. The reason for this was to ensure comparability and maintain a coherent focus on the thesis core topic of internal strengths and challenges. Considering that all participants operate within leadership roles, the questions were standardized to allow exploring of shared and differing perspectives of the internal capabilities. All respondents got access to information about the thesis and also an interview guide to get a better picture of the interview beforehand. The interview guide aimed to create a specific amount of order on the topic areas, while still allowing for flexibility when conducting the interview (Bell et al. 2019, p 440). In other words, the foundation of the research questions was built around three central themes that will recur throughout this thesis. The approach therefore supports the collection of relevant and focused data, which aligns well with the relatively narrowed scope of the thesis on internal considerations within tech startups. During the interviews, the authors used a simple and relevant language to ensure the respondent's understanding of the questions (Bell et al. 2019, p 440). Since the interview questions were focusing a lot on internal considerations, the interviews progressed smoothly, as the participants were already familiar with the context and use of language.

*Interview guide will be found in appendix*

### 3.4.3. Conduction of Interviews

All interviews were conducted in Swedish, as that was all respondents' first language. The interviews were conducted face-to-face at Talendary's office, where each interview lasted approximately 20-40 minutes. Interviewing in organizations can be difficult due to time constraints and that it sometimes may not be possible to take people away from their work to conduct an interview (Bell et al. 2019, p 439). However, it is not only the interviewer that can benefit from the interview, as it can be a two-way process where both parties gain (Bell et al. 2019, p 439). Talendary was very open and cooperative throughout the interview process, particularly because the thesis was conducted in collaboration with them. This contributed to a smooth and productive interview process where there were no difficulties in conducting them. The face-to-face environment also contributed to a flexible and smooth process.

As the interviews were conducted in Swedish, the answers and findings have been translated into English in the empirical and analysis chapters. The translation of interviews can be associated with challenges considering linguistic, socio-cultural, and methodological aspects. According to (Bell et al. 2019, p. 450), translation is therefore not a neutral process, as it can be influenced by the translator's personal experience, knowledge, and ability to maintain unbiased. This means that some meanings or nuances from the Swedish interviews may be slightly changed due to the translation, although this has been handled carefully to preserve the original content as accurately as possible.

### 3.4.4. Recording and Transcription

To gather and collect the empirical data from the interviews, each one was recorded with the voice-memo app on Iphone as well as transcribed afterwards with the help of the AI transcription tool CLIPTO AI. By recording the interviews, this assists the authors in remembering and reviewing the answers correctly, not only what was said but also how it was given (Bell et al. 2019, p. 445). An advantage with recording is also that the author does not have to think about getting notes and therefore not getting distracted and missing out on important inconsistencies that may appear in the participants answers, which also would make it harder to ask follow-up questions if not fully concentrated. (Bell et al. 2019, p. 445) This also strengthens the ability to go back to read or listen to the answers afterwards, instead of relying on collected notes from the interviews, making the presence of a biased analysis less likely.

One downside of using an AI transcription tool is that it can lack accuracy, while manually transcribing might result in more accurate transcriptions (Bell et al. 2019, p 449). However, the decision to use an AI transcription tool was thoroughly discussed and chosen to save time by shortening the transcription time of the interviews. To limit any misinterpretations of the automation tool, the authors also went back and forth between the digital transcriptions and recordings to make sure there was accurate information gathered.

### 3.5. Desk-Based Research

In addition to the interviews, literature sources and books have been used to collect relevant data. This is important to explore what has previously been researched within the topic, to be able to understand what is not covered, as well as creating a stable foundation to analyze the empirical findings. The interviews are considered as the primary data, as the articles and books are secondary due to being published by others. By using primary data as the main data, it ensures connection to the purpose of the thesis, as other research is important to create an overall understanding of the academic field.

Google Scholar has been used as the main search tool to find articles, where peer-reviewed articles have been the priority to ensure trustworthiness. To better find relevant articles, the different themes of the thesis have been searched for to narrow it down effectively: *Internal resources (VRIN)*, *dynamic capabilities* and product-led-growth.

When choosing books and main articles, the authors have thoughtfully chosen them to be relevant for the thesis, where recently published ones have been the main choices. The main books and articles studied have been:

- *Business research methods* by Bell et al. (2019), as it is the primary course book for this Bachelor Thesis (insert course code) at Linköping University. The book was used to get instructions on how to conduct the methodology chapter within business research.
- *Firm Resources and Sustained Competitive Advantage* by Barney (1991), as the main article introducing the VRIN framework. This was used to evaluate the case company's internal resources with the foundation of VRIN and the resource-based view.
- *Dynamic Capabilities and Strategic Management* by Teece, Pisano and Shuen (1997), as the main article presenting the dynamic capabilities framework. This was central for the theoretical framework as it served as a foundation in understanding how firms adapt and emerge in dynamic environments.

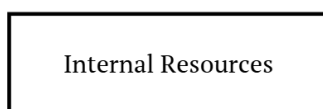
### 3.6. Analysis Method

After collecting the empirical data and transcribing all interviews, everything has been reviewed, to get an overall picture of relevant findings. The interview transcripts were written down and not edited afterwards to keep them in the original form. The empirical data relevant to discuss was summarized and translated into English, as well as picked out relevant to the thesis research questions.

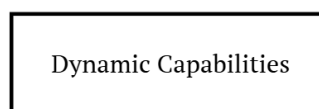
The two most common approaches for data analysis in qualitative research are *thematic analysis* and *grounded theory* (Bell et al. 2019, p. 518). In this thesis, the thematic analysis has been applied since themes have been chosen, based on the research questions and empirical findings. The VRIN framework and the dynamic capabilities theory have been guiding the choices of themes to fit with the purpose of the thesis. In other words, a theory-driven thematic analysis has been applied, to enable a structured iterative connection between already existing theory and empirical findings. In contrast to the grounded theory approach, the aim is not to develop a new theory but to explore how existing theoretical concepts can be applied and analyzed in early-stage tech startups, by identifying patterns in the data (Bell et al. 2019, p 519).

Because the interview guide was sectioned into three parts; *internal resources*, *dynamic capabilities* and *product-led growth* these three theoretical sections were maintained and followed during the thematic analysis. The interview guide also included a concluding section with questions about the future of the company, not following any specific theoretical theme. When deciding on themes, Ryan and Bernard (as cited in Bell and Bryman, p. 519), recommend searching for different criteria, such as repetitions, missing data and theory-related material. In this thesis, the focus has been on criteria “*theory-related material*”, which emphasizes organizing themes and responses according to relevant theoretical frameworks. While other criteria may be relevant in research, such as repetitions, it is more common to use in qualitative coding and not when deciding on the themes of the study. Therefore, the three themes were developed through reviewing theoretical frameworks and deciding on research questions. The themes were also refined throughout the process of interviewing and reviewing the empirical data. As these themes may go into each other, some data might appear in multiple themes if necessary for a grounded analysis.

*Theme 1.*



*Theme 2.*



*Theme 3.*



*Figure 2, Main themes divided.*

### 3.7. Reliability, Validity and Trustworthiness

Both reliability and validity are important measures of a study's research quality, and especially in quantitative research. However, the concept of trustworthiness is generally considered more appropriate in the field of qualitative studies. (Bell et al. 2019, p. 362). Reliability is whether the thesis results are repeatable and therefore consistent, in the context of business research. While both reliability and validity are traditionally relevant in quantitative research, they are addressed briefly in this thesis to show acknowledgement and understanding of these quality criteria. Trustworthiness is generally more accurate when assessing quality criteria in qualitative research, which is why this chapter will emphasise more focus on that. By doing multiple interviews that are also semi-structure,



the aim is to gain different perspectives but also to ensure reliability in the sense that one interview subject may not fully reflect the area of research.

### 3.7.1 Validity

Validity refers to how accurate the thesis is regarding how it is reflecting the origin research it aims to explore (Bell et al. 2019, p 46). There are three types of validity, where the first one, *measurement validity*, is more common in quantitative research as it is concerned with if a measure actually is measuring the intended phenomena (Bell et al. 2019, p 46). However, it can still be appropriate in qualitative studies as a thesis can measure the wrong factors, which gives non trustworthy results. Since this thesis uses a case study design, validity is ensured through carefully designing the purpose and research questions, as well as the interview guide and data analysis.

The second type is *internal validity*, which refers to the causal relationships within the research (Bell et al. 2019, p 47). The aim of this thesis is not to establish statistical causality, but rather to explore internal resources and capabilities, which makes the internal validity playing a limited role. However, the internal validity is taken into consideration by clearly linking empirical findings to the theoretical frameworks and a transparent thematic analysis.

The last type, *ecological validity*, reflects whether the findings are applicable in everyday life and real-world contexts (Bell et al. 2019, p 47). If findings lack ecological validity, the concern is if they actually enable an understanding of the real world, which makes its value decrease. To ensure that the ecological validity is strong, the conduction of semi-structured interviews focusing on real organizational challenges, ensures that the conclusions will give practical relevance and not only theoretical.

### 3.7.2 Trustworthiness

In qualitative research, trustworthiness is considered more appropriate when discussing quality measures, than the traditional concepts of reliability and validity, which typically are used in quantitative research (Bell et al. 2019, p 363). While the thesis still addresses reliability and validity as important quality metrics, trustworthiness is especially worth reflecting on when it comes to qualitative research.

Out of the four criteria of trustworthiness, the first one is *credibility*, which parallels internal validity (Lincoln and Guba, 1985, as cited in Bell et al. 2019, p. 363). To establish credibility, the research should ensure good practice as well as be submitted to the members of the social world who were studied, for them to confirm a correct understanding of the world studied (Bell et al. 2019, p. 363). This type of latter technique is called respondent validation or member validation, referring to allowing participants to review and verify interpretations or responses summarized in the thesis (Bell et al. 2019, p. 364). The thesis has acknowledged and ensured good practice, but respondent

validation after the interviews have not been applied due to time constraints. However, an open dialogue with the case company was maintained throughout the research process, to clarify any misconceptions, as well as the final work being sent to the respondents.

The second aspect is *transferability*, which parallels external validity, concerning whether the findings can be applied in other contexts (Lincoln and Guba, 1985, as cited in Bell et al. 2019, p. 365). Compared to quantitative research, where the goal often is to offer statistical generalization, findings in qualitative research differ more due to the unique aspects of the contextual uniqueness of the world being studied (Bell et al. 2019, p. 365). Therefore, the goal of this thesis is not to present statistically generalizable findings, but instead to provide context-rich insights that can be applicable to other contexts than this specific one, especially similar contexts. This is addressed by ensuring rich descriptions, however, transferability cannot be totally ensured. While external validity, or generalizability, is more common in quantitative research and refers to findings that can be extended beyond the specific research case (Bell et al., 2019, p. 47), this thesis put more focus on trustworthiness due to the qualitative approach.

As a third aspect of trustworthiness, Lincoln and Guba (1985, as cited in Bell et al. 2019, p. 365) propose the idea of *dependability*, which is parallel to reliability and referring to whether the findings are consistent and will apply over time. To ensure dependability, the thesis maintained transparency as well as documentation, providing a clear trail and support for the findings over time. However, this cannot be ensured and if the same study were to be conducted again, it would probably result in different findings.

The fourth and last aspect is *confirmability*, a parallel to objectivity, concerned with ensuring that the researcher acted in good faith, although it is impossible to be completely objective (Lincoln and Guba, 1985, as cited in Bell et al. 2019, p. 365). While acknowledging and being transparent about the fact that complete objectiveness is certainly not possible, meaning that there is a small possibility that results would have been interpreted differently by other researchers, the authors have ensured an objective and professional approach throughout the thesis.

### 3.8. Ethical Considerations

Having awareness and discussing ethical considerations is highly relevant in business research, and must be considered during a thesis (Bell et al. 2019, p. 112). According to Diener and Crandall (1978, as cited in Bell et al. 2019, p. 114), the ethical principles can be broken down into four main sections.

The first one is whether there is *harm to participants*, which can appear in different forms, such as physical harm, stress or even harm to the participant's career or future (Bell et al. 2019, p. 114). In this thesis, the authors cannot link any harm to the participation of the respondents. After the interviews, the participants got the choice to be anonymous in the empirical findings and analysis chapter, where they were fine with either anonymity or not. However, the authors decided it was not

necessary to mention the participants' names as it would not provide any important insights, and there would not be any negative aspects of maintaining anonymity. Although no names are included, their roles in the company are presented to get a background of what work responsibilities they have.

Whether there is a *lack of informed consent* is the second area. This area is considering that the participants need to get enough information about the thesis to decide whether to participate or not (Bell et al. 2019, p. 118). When discussing the potential collaboration with Talendary, relevant information about the thesis was given, as well as an open dialogue with additional information communicated via email and video-meetings before starting the interviewing. To align with this ethical principle, the respondents were asked for consent to record the interview before it started, where all participants gave their permission.

The third principle is whether there is an *invasion of privacy*, with the need of protecting the privacy of all participants (Bell et al. 2019, p. 123). This area is closely tied to the ethical consent principle, discussed previously, as informed consent helps ensure participants know what to expect and can choose what to share. While the topic of this thesis focuses more on professional experiences rather than private ones, it is difficult to know beforehand what an individual may find sensitive. For this reason, the interviewers approached all questions with a friendly and respectful tone. If any respondent would show discomfort, the possibility of reformulating it less personal or moving on to another question was considered, although this did not happen.

The fourth and last principle is whether *deception is involved*, which is if the researchers present their research as something else than it actually is. Deception in research can harm the participants as they can be unethically misled, as well as it reflects a lack of professionalism if it serves the researcher's self-interest. (Bell et al. 2019, p. 123). In this thesis, no deception was used, as the participants were fully informed about the true purpose and data conduction. The authors have therefore been transparent to ensure ethical integrity and respect the participants fully.

Regarding artificial intelligence, this thesis has been made with minimal use of AI. This has been carefully considered to ensure authenticity. While the transcription of interviews has been conducted with an AI-program, they have all been carefully reviewed manually to ensure correct transcription interpretations. Overall, this thesis has considered ethical concerns throughout the whole research process. Although it is impossible to completely eliminate all risk of harm to participants when doing research, active attention and consideration to ethical principles, such as informed consent and transparency, has significantly reduced the risk of ethical harm (Bell et al. 2019, p 118).

### 3.9. Limitations

Although the aim of the thesis is to generate valuable insights, useful for both further research and theory but also in practice, the authors acknowledge the ongoing debate regarding business research relationship to practice (Bell et al. 2019, p. 6).

Academic business research is at risk of losing touch with real-world concerns of practitioners, especially when failing to actually engage with the practical context. Considering this, this raises questions regarding to what extent findings can be applicable in practice (Transfield and Starkey, 2006, as cited in Bell et al. 2019, p. 6). Therefore, while being transparent that this thesis uses an instrumental case-study design, the aim is to provide recommendations and insights that can be applied in real-world settings and not only theoretical or academic ones. To ensure this, the authors have thoughtfully kept this in consideration when conducting the thesis.

As earlier stated in the confirmability discussion, complete objectivity is impossible when conducting business research (Bell et al. 2019, p. 365). Therefore, subjectivity to some extent was expected to appear in the thesis, while the authors were cautious with formulating objective interview questions without personal objectives. As well as complete objectivity cannot be limited from the author's side, some findings may also be influenced by the personal thoughts and values of the respondents. However, to ensure the highest objective level as possible, both the research questions and the interview questions have been formulated to generate truthful answers.

## 4. Empirical Findings

After gathering data through semi-structured interviews, the empirical findings were summarized and transcribed by using the interview recordings. The structure of the empirical findings is divided into chosen themes: *Internal resources*, *Dynamic Capabilities*, and *Product-led growth strategy*, chosen to align and answer the research questions. The three themes were explained briefly but not deeply defined for the participants, as the intention was to allow them to interpret and answer based on their own understanding. However, if they asked for any clarifications during the interviews, more guidance was provided.

They are also presented in chronological order as they follow the same thematic structure as the interviews. The aim is that each theme section answers either one research question, or a part of them, to further provide a clear structure. In each theme section, the findings are also divided between every participant, to separate the data from each interview. The first part of the interview consisted of questions of what position they currently have in Talendary as well as their work tasks, to create a stable foundation to further ease into the thematic questions. To conclude the interviews each respondent was asked to estimate a picture of Talendary in the future. These questions were asked to gain a better understanding of how different respondents saw the company developing in the coming years. However, these answers will not be analyzed as they were not directly relevant to the research questions, but more as a foundation.

### 4.1 Internal Resources

The first theme of the empirical findings aims to answer the parts about resources in both research questions: 1. *What gaps in VRIN resources and dynamic capabilities can be identified in the case of an early-stage tech startup?* 2. *How do internal resources, such as VRIN resources, and the product-led growth strategy influence the development of dynamic capabilities in early-stage tech startups?* The participants were asked to explain why and how their internal resources impact their development as a company. They were also asked to provide thoughts and information about their core internal resources as well as areas of improvement.

#### 4.1.1. Respondent 1: COO

R1, the COO of the company, who is involved in both financial and internal processes of the company, was asked to describe whether their team, competencies, or technology has contributed to the firm's development. R1 highlights the mutual dependence needed within a small team. R1 explained that since there are only ten employees, there are clear gaps, but the team is aware of these and are actively working to improve. According to R1, one valuable internal resource is the access to digital tools, such as Cursor and other AI-based tools, as it enables the developers to work more efficiently in building databases. They have tools that enable them to do coding even without deep knowledge in using it, allowing them to create a mutual basic understanding within the team.

Another insight that R1 shared is that although these tools are valuable, the need for more human resources is still important, as the tools as resources together with skilled employees lead them to develop their product. According to R1, this code makes up the biggest value from their resources and it is also the hardest for competitors to imitate.

When asked to reflect on the most important internal resources for development, R1 explained that “time and access to digital tools are crucial”. R1 shared a concrete example regarding their website, where they considered purchasing a costly service but instead decided to use a cheaper, but efficient, AI tool. This decision required internal discussion, but they managed to lower the cost. According to R1, continuous testing of new tools is a part of their internal work approach, which extends their internal capabilities and helps members become “experts” in areas that are outside their formal work tasks which broadens the team's adaptability.

However, regarding potential lacking internal resources, R1 explained that although it is difficult to know exact gaps, the team has a shared understanding that some gaps might be unidentified. Since the company operates in a relatively unestablished industry, and has a young team with not that much prior experience, gaps can emerge over time. R1 used the “Japanese lake” as a metaphor to describe that new challenges may surface over time, as the same way unknown factors can arise from the water. R1 further explains that they have a humble approach, working to continuously learn more and adapt.

#### 4.1.2. Respondent 2: CTO

When asked if and how the team, competencies, or technology has impacted the development of the company, R2, who is responsible for tech, explained that because they have grown in team-size, even though they are still considered an early-stage startup, they can work effectively parallelly. R2 further explained that this means that some can focus on sales, while others work more with product development. Additionally, R2 mentioned that many team members work with internal efficiency, which enables others to put focus on other core responsibilities. Regarding impactful tools, R2 highlighted that they use different AI tools, which provides a lot of help on the technical side. As R1 also stated, this allows the majority of the team members to do coding even without developer experience, where they help each other if needed.

Regarding the question whether there are any internal resources that are highly important, R2 pointed to AI tools and people as most critical, as they “heavily enhance the efficiency and output”. However, the captured value is dependent on whether the team members can use them effectively.

When asked if some resources might be missing, R2 did not explain any major gaps experienced personally, but did mention the need for more people in the development area. There is no doubt, according to R2, that the team has many ideas and curiosity as the market is evolving, but to be able to move even faster, they need more employees. R2 explained that more funding could lead to more

hiring of skilled people and that “they go hand in hand”, but the importance lies in finding the right qualities and cultural fit.

#### 4.1.3. Respondent 3: CMO

Regarding the question about how the team, competencies, or technology has contributed to the company’s development, R3, the CMO of the company, responsible for marketing, explained that their internal resources have had a big impact. R3 explained that they can make progress due to their highly skilled team that complements one another. A lot of the team members have a background in tech or engineering, making it easier to work fast and with digital tools. R3 said that by using coding and tools, the tech team can work much more efficiently than they otherwise would. Time was also mentioned as an important internal resource.

When asked which internal resources that are important for development, R3 highlighted the need for more people, mostly in tech. Expanding the team would allow them to do more, which enables more progress within the company. R3 summarizes with 3 Ts as the most important resources which are “team, time and technology”.

Regarding potential resource gaps, R3 explained that lack of people can be limiting, as limited time and employees can prevent them from fulfilling all ideas, such as building more features based on customer feedback. R3 also provided a concrete example of the impact of them hiring a salesperson with a recruitment background. Since they operate in the recruitment industry but lack experience in that part particularly, the new employee brought a new perspective which enabled them to make decisions not only from a technical foundation but also industry-specific.

#### 4.1.4. Respondent 4: CEO

Regarding the question about how the team, competencies, or technology has contributed to the company’s development, R4, the CEO, emphasized that the most important internal resource is a competent and complementary team. R4 further explained that to enable productivity and effectiveness, having the right people in the right roles is crucial. The respondent also described how automation tools used internally enable the team’s capabilities, as they can focus on what they do best. R4 also explained that they continuously work to allocate responsibilities effectively, to reduce the unnecessary workload.

When asked about internal resource gaps, R4 explained that while they have “their core functions covered”, there is a need for expertise and specialists in certain areas of the company. R4 mentioned that they are looking for external mentors to support the young team, to guide the organization as they grow more. R4 also explained that funding can be a limiting factor, as more capital would allow for hiring faster and a more balanced work distribution. Additionally, R4 concluded that although

internal digital tools and tech are enablers, the most important resources are their team and competence. R4 notes that; “a competent team is always the most important in all start-ups”.

“We move fast but we can always move faster” the CEO says when asked about what might be missing in their organisation. R4 states that the company possesses what is referred to as “the necessities” but also identifies certain resource gaps, such as the need for additional expertise in specific technical areas and the desire to further develop. These gaps sometimes limit the speed at which the company can execute new initiatives.

#### 4.1.5. Respondent 5: CCO

R5, the CCO of the company, who is responsible for customer acquisition and customer success, was asked about the role of internal resources in the company’s development. R5 explained that technology has been the most important, highlighting the software and AI tools used internally, which have increased efficiency. R5 also explained that their work tasks regarding sales have been completely transformed by the use of technology, enabling higher productivity. Additionally, R5 pointed to the competence of the team and their professional network as key factors. The network was described as developed over time, where the entire team shows effort into keeping the company moving forward.

When asked about gaps or potential missing internal resources, R5 said that time to execute tasks can be a limitation. R5 explained that with more time, they can, as a team, do more and therefore also develop and improve execution quality. In addition, R5 also stated that capital is a critical resource to secure more funding and in turn enable further growth.

### 4.2 Dynamic Capabilities

The second theme of the empirical findings aims to answer questions about dynamic capabilities, including gaps in dynamic capabilities in question 1: *What gaps in VRIN resources and dynamic capabilities can be identified in the case of an early-stage tech startup?* as well as question 2: *How do internal resources, such as VRIN resources, and the product-led growth strategy influence the development of dynamic capabilities in early-stage tech startups?* All participants were asked about both which dynamic capabilities they believe the company possesses, but also which that may be missing or in need of development. They were also asked to provide examples of scenarios or time periods when they had to be quick on changing the company’s internal structures, due to market uncertainty, as well as questions on what is important to operate in emerging markets.



#### 4.2.1. Respondent 1: COO

R1, the COO of the company, was asked to describe how the company becomes aware of external changes such as market or customer needs. R1 explained that, since the product is not yet fully developed, they rely heavily on feedback loops from users and partners to understand changes in customer needs and the tech market. R1 also highlights the close customer contact the team has, to enable feedback gathering on customer needs, which enhances the ability to adjust the product based on inputs. Everyone in the company is very humble and open to learning and listening, according to R1. To conclude, R1 describes their approach as a “push and pull” strategy, where they work proactively to be able to deliver great solutions, while also pulling in the information and feedback they need to get ideas to guide the development of the product.

When asked to describe a time when they had to change or adapt their work, and what led to success in that change, R1 shared that change often arises from customer interactions and feedback, where new insights open up for improvement. It can both be that the team identifies opportunities of change by analyzing current processes, but also by customer suggesting features. R1 provided one concrete example where the company’s analytics page was not 100% correct. Customers used it to demonstrate the value of the tool internally, while also pointing for improvements. R1 further explains that since the team were constantly collecting this customer information, the feedback “boiled up”, prompting them to work on it and make a change. Another major change R1 explained was that if they look back at where they were 1 year ago, the platform looks completely different today, by being more user-friendly and better looking.

R1 were asked whether there is anything in their way of working that facilitates change or development. The answer was that the company has a systematic process for capturing and acting on feedback, using a structured tool - a Kanban board, to collect ideas and inputs from customers. R1 describes it as these inputs being continuously logged and evaluated based on values and implementation effort. R1 also reflected on the decision culture, where most product-related decisions go through the CTO or CEO, while the organization as a whole is “relatively flat”, meaning that they have collaborative communication and decision-making between teams. A follow up question regarding if the company would describe themselves as divided into teams or not was asked, where R1 explained that while they have three teams - operations, commercial, and tech, they still work very closely together. However, as the company grows and the divisions may become more structured, it may become harder to maintain alignment.

This leads into the final question of the theme where the respondents were asked whether there are specific capabilities they recognize as necessary to develop. R1 emphasized the importance of clear communication strategies as well as “leveling up” the entire team’s skills, particularly in the use of modern tools like AI. Before automation tools, it was more common to rely on external consultants,

but as AI is an effectively used tool nowadays, the team works to integrate it to support problem-solving and knowledge. R1 explained that this shift enables even junior employees to develop relevant capabilities, if they have the right mindset and support.

#### 4.2.2. Respondent 2: CTO

R2, the CTO of the company, who is responsible for all tech related work was asked to describe how the company becomes aware of external changes. R2 explained that most external signals that can lead to changes, such as market trends, are picked up informally. According to R2, the strength is that everyone in the company is interested in learning more and stays updated by frequently scrolling relevant platforms, such as LinkedIn. Some also follow AI-related Youtube channels, because of personal interest, which makes them stay informed about new tech and AI updates. R2 further explains that there is no formal role assigned to scan the environment and take in external signals, since curiosity and personal interests across the whole team already fill that function.

R2 provides one concrete example of a change where the company had to quickly shift development priorities in response to new technology. After a new AI-based development tool was released, the team tested it, purchased it, and implemented it as a new standard after only a couple of weeks. R2 also mentions the same quick shift with a design tool where they replaced their previous tool quickly after realizing the new one may work better. According to R2, this flexibility and openness to change is a core part of the culture of the company, enabling them to quickly see opportunities and respond to change. Even if a decision can mean completely changing familiar work or tools, everyone supports it if it benefits the company. R2 explains that although the team is formally divided into three sections, they still work more as one complete unit, helping them to have flexible communication and adapt quickly.

Regarding the question of if and which capabilities are needed going forward, R2 emphasized that although they are good at changing quickly if needed, the communication can be improved. R2 explains that as the team grows, everyone is not “in the room” when decisions are made, since some may be on vacation or at home. Because of this, R2 highlights the need for better communication structures and documentation to ensure that everyone gets the right information when change will occur, especially those not present during big discussions and decisions. However, although it can feel unnecessary to document fast-moving divisions if they are going to be changed soon again, R2 sees it as an area for improvement.

#### 4.2.3. Respondent 3: CMO

R3, the CMO of the company, responsible for marketing, was asked to describe how the company becomes aware of external changes such as market or customer needs. R3 emphasized that the key factor in staying updated on market and customer changes, is the shared interest in technology across the team. When asked whether there is something in their way of working that makes it easier

to change or develop as a company, R3 explained that the small team size enables fast decision-making and smooth implementation when change is needed. According to R3, they can act more quickly without extensive internal processes or discussions, compared to larger firms. R3 also highlighted the trust within the team as an important factor, where they trust and support each other's judgement and initiatives.

When asked about the organizational structure as a follow up question, R3 described it as “very flat”, more specifically that they have mutual dependency. R3 further explained that everyone has their own area of expertise, but collaboration is essential for day-to-day work as well as bigger decisions.

When asked whether there are specific capabilities they recognize as necessary to develop, R3 acknowledged communication as an internal capability gap. R3 explained that because of the high pace and the emerging market they are operating in, the progress of the tech team is not always communicated in the most effective way to the other departments. Communication is not prioritized at all times due to the high pace of the company.

#### 4.2.4. Respondent 4: CEO

When asked how they recognize changes in the external environment, R4 emphasized the importance of effectively working with macroeconomic trends and technological advancements. R4 also explained that shifts in the market or regarding investments influence not only their own strategic focus but also their customer's behaviors. R4 highlighted that it is critical to have knowledge about competitors and customers actions to stay updated. Additionally, R4 explained that external technological changes in AI, plays a crucial role in shaping their technological developments such as chatbots.

Regarding the follow up question about the team structure, R4 explained that rather than assigning formal roles for recognizing and monitoring changes, the company relies on the curiosity and initiative that the team members possess. According to R4, the team includes people with interests in, for instance, tech trends, which is updated on the latest news by watching and integrating on social platforms such as LinkedIn and Youtube.

When asked to describe a time when they had to change or adapt their work, and what led to success in that change, R4 described a concrete example of how they had to pivot their product direction due to sudden market changes in the job market. At first, the product focused on sourcing passive candidates, due to the labor market having a lot of talent needed to be searched for combined with not many people applying for roles. However, R4 explained that within six months, the labor market dynamics changed, where employers began to receive a whole lot more job applications. This required the company to shift focus within their product as they had to work more with screening managing all these applications, rather than looking for qualified applications as before. R4 described this change as challenging, as they had already invested time and money in one direction

to later switch the product development. Still, the company's ability to adapt quickly and respond to change was crucial to succeed, according to R4. R4 also pointed to the strength and autonomy of the team, where shifts can be made and executed within one day.

In terms of capabilities that need to be developed, R4 explained that internal communication is a growing challenge. R4 noted that it may become more difficult to maintain their agile and flexible approach as the team grows, since it may become more complex with a larger team. This leads to a shift from recruiting based on a "culture fit" mindset to more of a "culture add" mindset, embracing a broader range of perspectives while still being agile and up to speed. As R4 put it: "If you want to build an attractive company, you have to be able to attract all kinds of competence."

#### 4.2.5. Respondent 5: CCO

R5, the CTO of the company, who is responsible for customer acquisition and customer success, was asked to describe how the company becomes aware of external changes such as market or customer needs. R5 explained that this mainly occurs through internal collaboration and close customer contact. As being the main person to gather customer feedback, R5 emphasizes the importance of forwarding relevant insights directly to colleagues, enabling a flexible and actionable feedback loop. R5 describes their weekly internal meetings as room for discussion and improvement for sharing knowledge and updates to maintaining alignment within the team.

When asked to describe a time when they had to change or adapt their work, and what led to success in that change, R5 described that they noticed that information may not be shared effectively between the departments, which made them implement the weekly internal meetings.

Regarding whether there is anything in their way of working that facilitates change or development, R5 explained that the company's small size, combined with high trust between each other, enables fast decision-making and fast implementation when change is needed. A concrete example provided by R5 was that small adjustments such as bug fixes can be quickly fixed because of the team's internal collaboration and trust, enabling an agile work approach.

Regarding capabilities that need to be developed, R5 explained that in terms of data analysis they need to work on whether they are measuring the right things, by defining key success metrics better. Additionally, to better capture those "aha moments" from customers where they really see the value of the product clearly. R5 also explained there is always a need for better collaboration and communication within the team, with more structured processes.

## 4.3 Product-led Growth Strategy

The last theme of the empirical findings was strategy, more specifically the product-led growth strategy that the case company uses. The theme aims to answer the part about the PLG strategy in the last research question: *How do internal resources, such as VRIN resources, and the product-led growth strategy influence the development of dynamic capabilities in early-stage tech startups?* The participants were asked to explain how they see their strategy at this moment, if their strategy is connected to change as well as questions about core aspects and development areas within the strategy.

### 4.3.1. Respondent 1: COO

R1, the COO of the company, was asked to describe if and how the company's strategy, PLG, affects their way of working internally. R1 explained that the strategy means that the product itself is the centre of both customer acquisition and retention, which in turn shaped internal processes and ways of working. R1 also explained their current goal which is to make the product "as simple as possible", with a smooth onboarding process for new customers.

When asked if their strong product focus, PLG, impacts other parts of the business, R1 responded that it does not necessarily impact other areas. While the company does put a lot of focus and effort into the product, it does not come at the expense of other important parts. R1 further explained that they make sure to allocate time and resources where it is most needed in the moment, to be able to create value. Examples mentioned were that some areas of the team can have whole weekends of workflows, such as a recent weekend where the entire tech team worked on back-end restructuring, which is not visible for customers but still critical. According to R1, this way of working internally reflects the importance of strategic prioritization that aligns with the product, without taking away focus on other aspects such as close customer contact and feedback loops.

R4 emphasized that they intend to continue with the Product-Led Growth strategy in the future, as the company grows. To be able to expand and scale in the future, according to R4, the product must be scalable and simple to onboard large numbers of users across the world. As a sub-question, R4 were asked whether the product is made to be difficult for competitors to imitate. R4 explained that while frontend parts can be copied due to visible codes, the backend code is not visible. The product algorithm that matches candidates to job roles is the core product, and according to R4, this together with innovation is what makes them produce value and sets them apart from others. Regarding future thoughts, R4 described different paths, depending on where they go. R4 expressed optimism of achieving growth, as well as a greater global reach and revenue growth.

### 4.3.2. Respondent 2: CTO

When asked how the company currently approaches growth, R2 explained several parallel tracks within their strategy. More specifically, R2 explained their strong focus on expanding the customer base through creating a simple product, with the goal of making it easy and free for users to invite other team members in the beginning, which lowers the barrier for usage. With this, R2 also mentioned that they work on including thoughtful design efforts as well as marketing, where all different workstreams aim at the common goal of growing the reach and engagement. R2 described how they have different responsibilities among the team members, to enable scale across different areas at the same time. While each area track is different, R2 emphasized the importance of them all aligning toward shared objectives by having a clear internal communication and collaboration across the team.

When asked whether any strategic decisions have led to new ways of working, R2 expressed their internal unspoken drive of being open to changes, such as changing tools and adopting new technologies if needed. A big part of the team works a lot with optimizing internal workflows, allowing the rest of the firm to move faster without losing control. A follow-up question about whether their fast pace can create challenges was asked, where R2 acknowledged that they sometimes can feel “chaotic” because of the high level of change that can occur. R2 also explained that the pace may not work for all employees, making recruitment more challenging, where the key is to actively seek people who both have the right competencies but also enjoy working in a fast-moving environment.

Regarding what they believe the company needs to improve internally, R2 explained that their high pace of work and change is a strategic choice, but bring both positive and negative outcomes. While flexibility is important and valuable, R2 pointed to the improvement in communication and documentation. R2 explained that if someone is absent or on vacation, the documentation and communication is not always done so that the employee can jump right into work. As a last question, R2 answered where the company will be in five years, where R2 noted that while it is hard to predict, they will probably be more employees, more global and have developed the product more.

### 4.3.3. Respondent 3: CMO

When asked how their strong product focus affects internal work, such as taking time from other areas, R3 explained that the product development is necessary and works as a foundation for future development. R3 emphasized that it is essential to have a great product before starting to focus on other areas, such as expanding or increasing sales. According to R3, they are planning on focusing more on marketing and visibility as it is important for people to be aware of them.

Regarding what their current strategy is, R3 clarified that they have not been working that much with expanding usage within client organisations. Instead, focus has been on gathering feedback to

guide product development, which has been important. R3 also explained that the product is technical and that it does not “sell itself”, requiring some type of onboarding for users.

In a follow-up question about potential risks and challenges, R3 explained that the fast-changing pace of the AI environment can be a concern, as other companies can break through with unexpected AI solutions. The risk is that technology “runs faster” than the company is able to. To manage and mitigate this, R3 explained that they continuously evaluate where to put the most focus and effort. They also monitor platforms, such as LinkedIn, to see where to put their focus regarding customer data and engagement.

Finally, when asked where they see the company in five years, R2 optimistically explained that they expect to grow in size but not too much since new technology will do a lot of work. R2 also described that the company envisioned their tool to become widely adopted across Sweden but also globally.

#### 4.3.4. Respondent 4: CEO

When asked about their strategic approach, R4 confirmed that they use the Product-Led Growth strategy, although they have encountered barriers. R4 explained that the complexity of the product and customer preferences have affected them, since some users find the product too technical. According to R4, this requires closer customer support and contact, as well as sales assistance, than they thought when starting with the PLG-model.

Regarding whether the product focus takes away time for other parts of the business, R4 explained that despite the focus of scaling through the product, the team still manages to work with the other areas of the company. However, R4 acknowledged that everything is an alternative cost, meaning that focusing on one thing more will affect other areas to some extent. R4 explained that while spending more time and effort in product development, less attention is considered to broader go-to-market strategies such as expansion or market segmentation. According to R4, this tradeoff is necessary for their company as their current product focus is important to support long-term growth.

When asked about potential risks or challenges, R4 explained a startup-risk-framework including five core risks: tech risk, market risk, scale risk, business model risk, and, competitive risk. According to R4, they are past the tech and market risk, and are now facing the scaling and business model risk. The final challenge is the competitive risk, while R4 noted that these risks often reappear and interact with each other.

To conclude, R4 were asked to reflect on the future, where the answer was that it is difficult to predict due to the feeling of “a quarter for a normal company equals one month for us”. R4 explained that in two years, they aim to be self-sustaining and scalable with more employees, around 25, and a greater revenue. They also aim to be a well-functioning partner with a good product for recruitment professionals as well as strong customer relationships.

#### 4.3.5. Respondent 5: CCO

Regarding the company's stated strategy, R5 stated, like the other respondents, that they work with PLG. When asked if and how the strategy affects their internal work, R5 explained that by focusing a lot on product development, other functions such as marketing and customer support can get less attention. R5 explained that these areas can become "laggy", as the main resources are directed into working with the product. However, R5 pointed at this as a conscious prioritization, as they believe that the product itself must be able to sell to work within PLG long term. R5 also noted that alternative strategies, such as a sales-led approach, are not entirely ruled out, although they plan to keep PLG as their strategy.

When asked about perceived risks and challenges moving forward with PLG, R5 mentioned three main concerns: (1) building a too technical product, leading to customers finding it too complicated to use (2) misallocating limited resources, such as capital, and (3) wrong human capital, meaning not hiring the right people. As for opportunities, R5 talked about international expansion. R5 explained that Swedish users are often more skeptical of free trials and self-service onboarding, in contrast to customers in other countries having a more positive attitude toward the PLG models. R5 also highlighted the potential of building effective teams that are actually quite small but operating as larger teams, with technology, allowing the firm to scale without hiring too many.

Finally, when asked where the company will be in five years, R5 described a hope of becoming market leaders in Europe, as well as entering the U.S. market. Additionally, R5 described ambitions of being more global, having a strong culture, being sustainable and having high margins. ‘

#### 4.4. Summary of Empirical Findings

The answers provided were similar in many ways and some answers even identical. Considering the different positions of the respondents, many different perspectives were observed and different degrees of details were provided in different sections from the respondents. Although, this shows the existence of an alignment regarding the organisation's overall vision and goals but also a common understanding of how these goals are meant to be reached. A term that was frequently used was; "the ability to run fast", which seemed to be a highly desirable ability for the organisation.



## 5. Analysis

This chapter includes a thematic analysis of the empirical findings, where the themes: *Internal resources (according to the VRIN model)*, *Dynamic Capabilities*, and *Product-led growth* are the underlying foundations of the structure. The analysis aims to integrate the key themes with each other in relation to the two research questions. Rather than isolating the theories when presenting the analysis, the concepts are discussed together when relevant. This is done to avoid any isolated structure that may not answer the research questions and show the connection between the concepts.

### 5.1. VRIN Resources and Identified Gaps

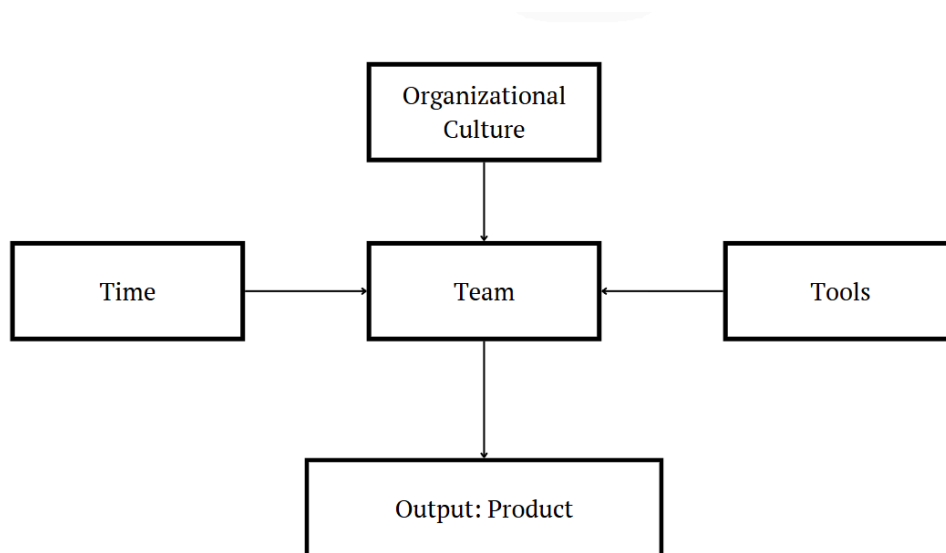
The first section addresses the first research question regarding possible gaps in internal resources and dynamic capabilities within the case company, and more explicitly the internal resources in this section. To be able to identify these gaps, the resources are evaluated through the VRIN-framework (Barney, 1991) to understand what the company currently has, to further see what might be missing. These findings are then linked to dynamic capabilities, as they later form a basis for the analysis in the second section of how these resources enable or influence specific dynamic capabilities.

#### 5.1.1. Overview of Internal Resources

The interview questions concerning internal resources were analyzed through the VRIN framework, which also were the foundation for the first theme of the interview questions. A key finding from this was that the resource Talendary possesses that most clearly meets the VRIN criteria of being valuable, rare, inimitable, and non-substitutable is their product and the associated software. Additionally, the most commonly mentioned internal resource throughout the interviews were their time, team's competence, as well as the AI tools they use within the team.

Since there were three frequently mentioned internal resources, the authors have identified a pattern described as the “**Three T:s**”, to summarize these recurring internal resources: *time*, *team* and *tools*. Time refers to the availability, hour allocation and flexibility to support the product and operation within the team. Team refers to the company's human capital involved in the product's development, including collaboration, competence and knowledge. Lastly, tools represent the digital systems used within the company, such as AI platforms and technical infrastructure used to build the product and other work tasks.

Together, these internal resources are combined and utilized in order to create and enhance the organisation's product. An organizational culture described as “very open to change” was expressed to be present by all respondents, even though a question regarding culture never was directly asked. Therefore, organisational culture is considered to be an internal resource closely associated with the team and the team's way of working.



*Figure 3, The Three T:s of internal resources working together, with organizational culture as foundation and the product as the output. Selfmade.*

### 5.1.2. Characterising Internal Resources and Gaps

The authors categorize time as an important resource for any company but argue that effective use of time is even more essential for startup-companies due to the tremendously fast changing environment. R4 even stated that; “A quarter for a normal company equals one month for us” in an attempt to express the essence of time and to use it effectively. However, the resource “time” does not fulfill any of the “VRIN-criteria” (Barney, 1991) except the fact that it is considered to be valuable.

All of the respondents expressed that they considered AI tools as valuable internal resources for the team. These tools made the team much more effective and allowed for more people to be able to operate with more different things outside of their core competence area. Even though these AI tools are proven to be very important for the organisation, they are accessible for everyone that can afford them and have the competence to use them well. Barney (1991, p 106 - 107) states that; a resource is considered rare when the firm uses a value creating strategy that is not implemented by a large number of other firms simultaneously. Therefore, the “rare” criteria of VRIN is not fulfilled. In regards to the imitability of the resource, it requires a certain expertise in technological understanding in order to imitate how the company uses them. However the tools are accessible to everyone which means that other organisations can learn to use them the same way that Talendary currently uses them. Barney (1991, p. 107 - 110) describes that there are only 3 different ways that an inimitable resource can take shape and these AI tools do not fully meet any of them. Therefore, the criteria of Imitability is “halfway” met in regards to the AI tools.

The competent team is also considered one of the most valuable resources for talendary. R4 states that nothing would be possible without the team and that; “competence is the most important

resource for any startup”. Real competence could be considered to be “rare” since it is hard to find, which is the very problem Talendary aims to solve through its recruitment product, designed to find and match candidates for companies hiring. However, competence can be developed and skills can be learned which is a reason why this criteria is not considered to be fulfilled. Regarding the criteria of imitability there is a more complex aspect to it. Even though a team hypothetically can be “substituted” for another it would not guarantee that the output of the team would be as good. If you also take into account the organisational culture, which the team has created, this makes the team much harder to imitate for other organisations but also for Talendary to substitute the team and still keep the culture they have created. Barney (1991, p. 107 - 110) describes three aspects of an inimitable resource where “socially complex” is one of them. The respondents described the culture as “very open to change” which might be a premise that not everybody would be comfortable to work under. Therefore the criteria of “inimitability” can be considered to be met under the sub category of “socially complex” in regards to the resource “the team” associated with “organizational culture”.

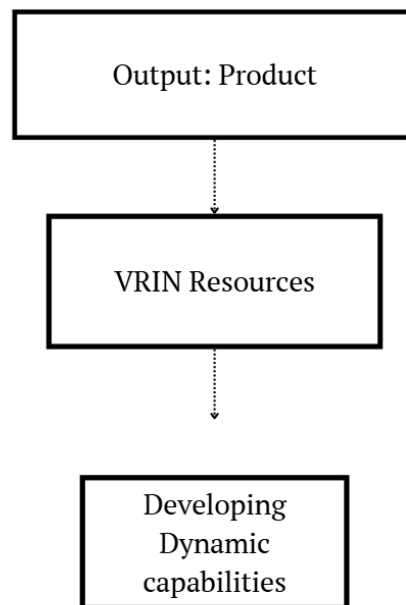
These resources listed above have, when combined, allowed Talendary to create their product which can be seen as their “ultimate resource”. Their product is the resource that can be argued to fulfill all of the “VRIN-criteria”. It is valuable due to the fact that it is the only generator of revenue for the company. It is built out of complex code that requires deep expertise in the area of technology and code plus the fact that the function of the product fills a very precise demand for customers which also makes this resource rare. The “front end code” which makes the product design and front-functions work is actually commonly accessible to other companies which makes it possible for other companies to copy the outline and design of the product. However the “back end code” which is what makes the product do what it does is not accessible for others. This code is built out of complex code which has continuously been developed for several years which is what makes the product very hard to imitate. The product is not only hard to imitate but also impossible to substitute for the company since it is what their whole operation is built on. This makes the product meet all of the criteria described in the VRIN framework by Barney (1991).

### 5.1.3. The bridge from VRIN to Dynamic Capabilities

Previous research by Lin and Wu (2014, p. 411) has indicated that the possession of resources of “VRIN character” enhances an organization's ability to develop dynamic capabilities. From the previous research in chapter 1, it is concluded that resources of the VRIN character have a positive effect on a firm's ability to develop dynamic capabilities while non-VRIN resources have an insignificant effect in the regard of developing dynamic capabilities.

Even though Talendarys only resource fulfilling all of the VRIN criteria might be their product, they have managed to develop all dynamic capabilities described by Teece (1997, 2007) to a certain extent, which is further explained in the next section. This begs the question if it is this very resource that has allowed for the organisation to develop dynamic capabilities, or something else. It could be argued that the product certainly has allowed the development of dynamic capabilities as it is able to

be altered for customer feedback which integrates both seizing and transforming, as described by Teece (2007, p 1326 - 1335), into the organisation's processes. Although the argument could be made that the product has not enabled the organisation to develop dynamic capabilities but that it has rather demanded it from the team and organizational culture in order for the product to be successful. Therefore it can be argued that it is not the most VRIN-like resource that has enhanced the development of dynamic capabilities but rather the resource of organisational culture. All of the respondents described the organizational culture as “very open to change” which suggests that this is the biggest enhancer in the development of dynamic capabilities. How the organisational culture has enhanced the development of dynamic capabilities will be explained in the next chapter.



*Figure 4, A weak link between VRIN resources and dynamic capabilities, Selfmade.*

The figure demonstrates a dotted arrow from the product to VRIN resources which represents how the product has developed into a VRIN resource, but only a single one. The halfway dotted arrow from VRIN resources to developing dynamic capabilities represent that although the product might have contributed to the development of dynamic capabilities, the link is rather weak and the cause and effect is hard to determine.

## 5.2. Dynamic Capabilities and Enabling Resources

The second section aims to analyze which types of dynamic capabilities that the case company possesses, as well as explore how these are either supported or limited by the internal resources characterized in the previous section. Rather than separating the two concepts, internal resources and dynamic capabilities, this section integrates them to create a broader understanding of how specific resources, such as time- tools and team, influence the organizations dynamic capabilities. This integrative approach is also supported by Lin and Wu (2014, p. 407), as they argue that the topic becomes more complex and nuanced when combining these capabilities with the resource-based view. The different dynamic capabilities are discussed through the lens of learning, integration, reconfiguration, sensing, seizing, and transforming. To conclude, this section aims to answer the second research question, and more specifically the part about resources: *How do internal resources, such as VRIN resources, and the product-led growth strategy influence the development of dynamic capabilities in early-stage tech startups?*

### 5.2.1. Internal Resources Enabling Learning and Integration

The case company shows signs of using both learning and integration capabilities, which allow them to take in new knowledge, share it within the team, and integrate quickly when making decisions. Learning capabilities could clearly be seen across several interviews. R1 explained their continuous feedback loops with customers to identify needs, as an important factor, which is consistent with how Lin and Wu describe learning capabilities (2014, p. 408). By continuously taking in feedback to be able to improve the product, learning is strongly emphasized as it shows an ongoing process of learning more about what the customers want. This finding also aligns with the statement of Lin and Wu (2014, p. 411), that learning capability often is seen as the most significant mediating factor regarding performance, as it seems to be a core capability within the case company.

The most strongly connected internal resource tied to this capability is the organizational culture of the company, which by many respondents was described as “very open to change”. Even though this resource does not meet the VRIN-criteria fully, this culture shows encouraging elements of flexibility and continuous knowledge sharing, which can be seen as enhancing the firm's ability to absorb and apply knowledge within the team (Lin and Wu. 2014, p 408). This openness within the team also enables integration, as they are able and willing to adjust tasks, share information and work across team departments without hierarchical elements, aligning with Lin and Wu’s example of integrating insights from different areas to refine performance (Lin and Wu. 2014, p 408).

The openness towards change and use of AI tools enables both learning and integration. This reflects a culture of continuous learning and knowledge sharing between the team members. Even here, these tools as a resource do not meet all VRIN criteria but still enable the company to work more efficiently and develop expertise, where team members not operating in tech are able to support

these work tasks, showing a strong presence of both learning and integration capabilities (Lin and Wu, 2014).

The internal resource “team”, also supports learning and integration, as R2 and R4, especially, mentioned the personal interest of learning more about trends and technologies, which shows that the team actively keeps up and absorbs with external trends (Lin and Wu. 2014, p 408). Internally, this information is leveraged by using informal communication, trust, and a willingness for cross-collaboration between teams. The fact that the case company is formally divided into three teams, but work more together, reflects strong integration capabilities that are also culturally embedded. Time as a resource also indirectly contributes to learning and integration, even though it is not characterized as rare or inimitable. Time puts pressure on the team to adapt quickly and continuously learn and improve, to operate in the emerging market they’re in. The statement by R4 in the empirical findings “A quarter for a normal company equals one month for us”, illustrates that working fast is reinforcing both learning and integration within the company.

### 5.2.2. Internal Resources Enabling Sensing and Seizing Activities

Both sensing and seizing are dynamic capabilities, as described in the SST model (Teece. 2007, p. 1320) that could be seen in the empirical findings of the case company. All respondents, especially R1, R2 and R4, explained that they have mechanisms such as feedback loops with customers, informal trend-spotting through LinkedIn and Youtube, which all can be interpreted as a way of scanning the environment, and therefore sensing activities according to the SST model (Teece. 2007, p. 1322). Additionally, R1 mentioned that they use a “push and pull” strategy where they proactively work with taking in customer feedback and ideas while also working to continuously deliver improved solutions. The “pull” part of this strategy can very much be linked to sensing, as they engage with customers to be able to pull out the information needed for their product to be able to be improved.

According to Teece (2007, p. 1322), sensing is not only about identifying external signals but also investing in interpretive learning and integration capabilities to be able to act on these signals. The personal interests and knowledge within the team enables them to be motivated to stay informed about trends and other external information. The organizational culture, previously described as open and ready for change if needed, also enables the team to act on external signals and sense opportunity without hierarchical structures that may limit this flexibility and awareness. While team competence and culture, as stated before, does not fully meet the VRIN criteria, the link between these resources and sensing activities is present in practice, while also aligning with Teece’s (2007, p. 1323) perspective that effective sensing requires both individual insight and organizational support structures.

Another internal resource enhancing sensing is the tools used within the team. Although these tools are not rare or inimitable, they are adopted in an efficient way to better collect and analyze feedback

from customers and partners. This use of tools supports the view of Teece (2007), describing that firms not only react to external signals but also internally identify gaps in response. As stated by previous research, sensing capabilities is the most important one for operating in a dynamic market (Zabel et al. 2023, p. 15), hence why the strong evidence of sensing within the case company is desirable.

The phase after sensing, seizing, is essential to reallocate resources or make decisions upon the sensed opportunities, where the case company illustrates strong presence in this dynamic activity. R2 explained a quick adoption of new AI tools, such as a development tool, that they implemented within just a few days of hearing about it and then testing it. R4 discussed their strategic pivot in the product design that made them change the core offering from sourcing passive candidates to instead managing much larger volumes of relevant applications. This change happened due to shifts in the labor market, which shows that the company was able to sense the shift to then also seize it by actually adopting a new implementation of the design, more accurate to the external environment. These examples show that the company is able to make quick decisions when needed, which is central to Teece's (2007, p. 1326) definition of seizing.

The team and organizational culture appear to be key enablers of this capability. Empirical findings highlight a flat structure, high trust, and fast decision-making, all of which contribute to a responsive environment. These conditions reduce internal friction and allow the team to commit quickly to paths of action—characteristics that Teece (2007, p. 1326) notes are critical for seizing, especially under uncertainty and with limited resources. Both team and culture could be seen as strongly linked to seizing. The empirical findings showed a flat structure of the company, high trust, and fast decision-making within the team. All of these qualities are embedded within their team and culture, enabling them to seize the opportunities they need in order to act fast.

### 5.2.3. Internal Resources Enabling Transformation and Reconfiguration

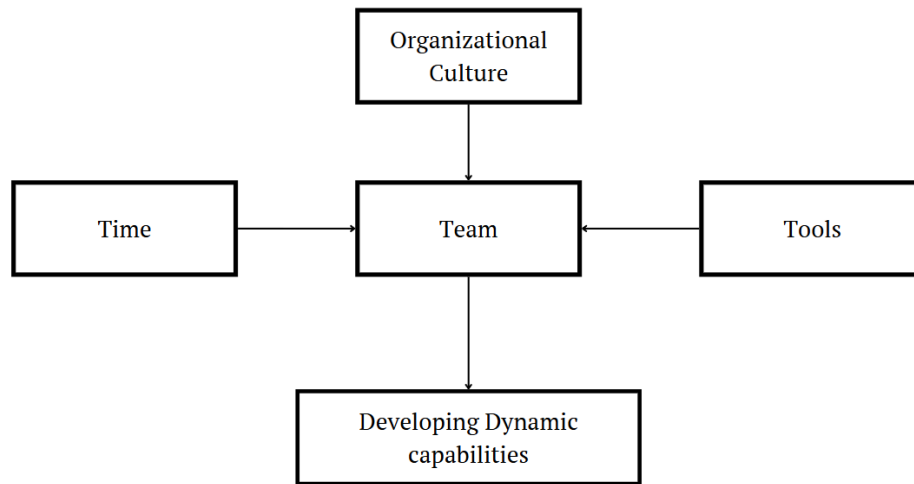
Reconfiguration capabilities were reflected in multiple examples from the participants. R4 provided the most distinctive one, with the explanation of how the product strategy shifted as there was a rapid change in the labor market, as earlier mentioned in the empirical findings chapter. Instead of continuing outdated assumptions, the team was quick on reconfiguration of internal resources and structures to improve the application of the product. According to Lin and Wu (2014, p. 408), these reconfiguration capabilities of reconfiguring assets and internal structures are particularly important in the context of high uncertainty, where many tech startups operate. Another concrete example was how they have been through several substantial platform and process changes, because of the ability of evolving user needs or tools. This demonstrates the firm's ability to actually reorganize internally in response to external changes, aligning with both Lin and Wu's (2014) and Teece's (2007, p. 1335) view on adapting long-term through reconfiguration.

The ability to reconfigure within the company is also enhanced by internal resources. The fact that they have a flexible and open team and an organizational culture supporting openness and change, allow for rapid shifts and reconfiguration when needed. This shows an alignment with Teece's (2007, p. 1335) perspective stating that both leadership and organizational design, such as decentralization and continuous improvement, are very important to sustain dynamic capabilities. However, reconfiguration will probably become more visible and important as the company grows. Several respondents explained that the company has current challenges regarding internal communication and documentation, where the need of a structured reconfiguration would increase more as the company grows. As a conclusion, this could be seen as a potential gap in the company's ability to reconfigure, signing with the perspective of Pigola et al. (2022, p. 3), describing that startups often need to innovate the product and the internal setup in response to market changes.

The open team and organizational culture also reflects their use of transforming capabilities. R4 mentioned the mindset shift from a "culture fit" approach to a broader "culture add" approach, which indicates that their capability transformation is not just about transforming in technical aspects but also cultural. This aligns with Teece's (2007, p. 1335) perspective that transformation is not just about structural changes, but also organizational ones, including routines, systems and even values, which aligns with this described shift. R3 and R5 also highlighted the need for an improved collaboration between the departments of the company. Additionally, R5 emphasized stronger capabilities regarding data and tracking customer success signals, showing a need for transformation in the area of internal knowledge. This observation is aligning with Chin et al. (2016, cited in Pigola et al, 2022, p. 19), where knowledge acquisition is seen as a key learning capability also supporting transformation activities regarding internal decisions and actions.

The fact that the collective desire to "run fast" was mentioned by all respondents, indicates a strong organizational and individual mindset, enabling the team to work towards common goals while being open to change. This is an important aspect of transformation, since the openness to change and the collective mindset aligns with moving in a fast-changing environment. Time could also be seen as a constraint to transformation, although it is not considered a rare resource. The statement of R4 "a quarter for a normal company equals one month for us" illustrates how they work fast. This mindset, together with their open culture, enables transformation in the short run. However, as emphasized by both Teece (2007, p. 1335) and Pigola et al. (2022, p.3), the long-term sustainability of transformation may need more formal systems and structures as the company grows. Overall, Talendary possesses strong transformation capabilities as described by Teece (2007, p 1335).





*Figure 5, Non-VRIN resources as dynamic capabilities enablers, Selfmade.*

The figure illustrates how resources of non-VRIN characters, the three T:s, have worked together in order to develop dynamic capabilities, with a strong contribution from the organizational culture described as “very open to change” together with the teams embracing of this culture.

### 5.3. The PLG-Strategy and its Influence on Dynamic Capabilities

This part of the analysis explores if and how the company’s strategic choice - the product-led growth (PLG) strategy - affects the use and development of dynamic capabilities, answering a part of the second research question. As analyzed in earlier sections, the case company illustrates several types of dynamic capabilities, such as learning, integration, and reconfiguration described by Lin and Wu (2014, p 408). They also demonstrate the use of the sensing, seizing, and transforming activities - the SST model described by Teece (2007, p 1320).

While strategic choices and dynamic capabilities often go hand in hand, the aim is to analyze to what extent PLG influences key dynamic capabilities, but also how the strategy encourages different types such as learning and integration. While it can be hard to establish an exact “cause and effect” in regards to strategic choices and their effect on dynamic capabilities, the authors have carefully reviewed and analyzed the empirical data to identify relevant findings and connections.

#### 5.3.1. Strategy as a Driver For Dynamic Capabilities

All respondents, during the interviews, explained the PLG strategy as a factor in shaping how the firm is operating. As the core of the strategy is to focus on the product, the product becomes both the channel and the outcome of customer relations and engagement. This requires a high level of integration between their different departments, such as product, tech, marketing and sales team. Across the interviews, internal coordination was highlighted, especially informal trust and interests, ensuring an alignment in working towards shared goals, which also reflects a strong capability of integration as described by Lin and Wu (2014, p. 408) between functional boundaries.

Many of the respondents' reflections also emphasized that the strong product focus requires high learning capabilities, especially when it comes to gathering and applying customer feedback to improve the product as well as onboarding and user functions. This was stated through examples of feedback loops within the firm, as well as many respondents discussing their ability to quickly adopt new technologies when needed. These findings show that PLG as a strategy encourages learning that is crucial for sensing changes in user needs. This makes the PLG strategy support the development of learning capabilities as described by Lin and Wu (2014, p 408) and also sensing capabilities, described by Teece (2007, p. 1322).

### 5.3.2. PLG-Model Supporting Dynamic Activities

The fact that the product is the core focus, also creates a culture with continuous sensing (Teece, 2007, p. 1322), both in sensing external trends such as via LinkedIn and other channels, but also by looking internally through feedback systems. It is also clear that the PLG model supports seizing, described by Teece (2007, p 1326), in terms of the speed at which the team tests and adopts new technologies if and when the product needs to change.

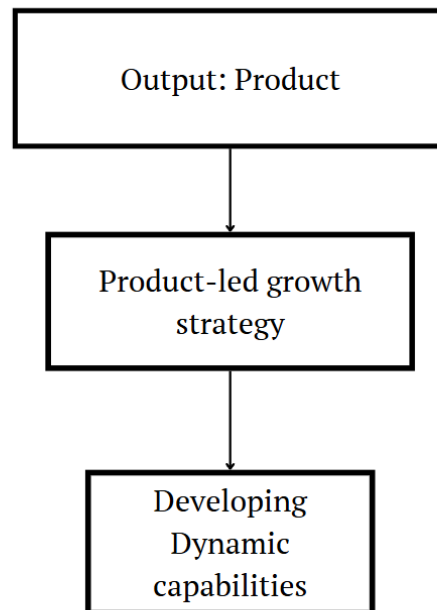
However, PLG can also reveal challenges. According to Teece (2007, p. 1335), transformation include reconfiguration of internal routines to support long-term adaptability. The product-centric focus can cause other areas in the business, such as marketing, to lag behind, indicating that while the strategy encourages fast pace and development, it can also limit transforming capabilities in some areas. In other words, it can take away focus from other internal dynamic capabilities such as creating structured documentation and clear communication. Additionally, as the company updates its product frequently, they may sometimes make changes reactively, instead of reconfiguring processes to create more structure. However, out of all respondents, most did not address PLG as constraining for their company overall.

### 5.3.3. Transforming Capabilities and Risks

Some respondents acknowledged that PLG can lead to over-reliance on a highly technical product in a low tech-market, like recruiting often is. They also mentioned that there is always a risk of allocating limited resources incorrectly due to this. These possible risks show how important transforming capabilities are, defined by Teece (2007, p. 1335), as the ability to reconfigure and transform internal assets, roles or structures to align with changing market conditions. Key aspects here are especially internal communication, team structures and culture, as well as hiring the right people.

Furthermore, the empirical findings indicated a risk of not adapting to certain market expectations, especially in other countries or if technology runs faster than the ability of the company. This shows that in order to use PLG, the use of dynamic capabilities and adjustments, not just in the product, but also inside the organization, is important when discussing strategic transformation. While the

PLG strategy encourages flexible shifts when needed, as the product may change due to quality changes or user needs, a more structured way of working with reconfiguration may be needed in the long run when the company scales.



*Figure 6, PLG enhancing dynamic capabilities development, Selfmade.*

The figure illustrates how the product that has demanded the team to work in a specific way has generated a PLG strategy which in turn, has enhanced the development of dynamic capabilities.

## 5.4. Summary of Analysis

The analysis identifies clear gaps in Talendary's internal resources when viewed through the lens of the VRIN framework by Barney (1991). Apart from the product that meets all of the characteristics described in the "VRIN model", no resource that also met all criteria were identified. While the internal resources of Talendary might be considered valuable in some ways, it does not make them a source of competitive advantage according to the framework. The second criteria "rare" was the one most resources did not fulfill, for example the team closely associated with the organizational culture, but not rare since every organisation develops a team culture. Although the specific culture developed by talendary is very open to change and working closely together across teams can be considered to be somewhat rare. Therefore the culture together with the team is also harder to imitate and substitute. Even though the resource "team and culture" doesn't completely fulfill all of the VRIN criteria, it was shown that the organizational culture was the main driver in developing dynamic capabilities.

The analysis found that even though the company's internal resources do not meet all VRIN criteria, they effectively develop all types of dynamic capabilities in practice, described both by Lin and Wu (2014) and Teece (2007). This is the opposite of earlier research, as they found that VRIN resources

are very important in developing and using dynamic capabilities. In this case, other important internal factors that are not VRIN are highlighted, such as collaborative team culture, internal trust and openness to change. Although culture was not explicitly asked about in the interviews, it was a topic consistently and collectively emphasized, more specifically explained as a culture very open to change. These characteristics were also shown to enable the three types of dynamic capabilities: learning, integration and reconfiguration as well as the activities sensing, seizing, and transforming. All of these types work as a foundation for firm responsiveness in dynamic environments. However, while some capabilities are strongly present, others are in need of improvement, such as better communication and documentation.

Furthermore, the product-led growth strategy was shown to shape the development of dynamic capabilities. For instance, PLG seems to support both learning and integration capabilities, as well as strengthening sensing and seizing capabilities, by encouraging every area to align product focus with customer insights. It also enables strong internal collaboration and knowledge sharing, due to cross-functional work and continuous feedback loops needed to develop the product. Therefore, it is more the strategy they use to develop the product that has affected the capability development, rather than the product itself, even though they go very much hand in hand. The analysis also showed some limitations. For instance, the product-focus of the strategy can lead to internal challenges in not communicating fully and properly documentate everything. It also found a potential risk of relying too heavily on building a very technical product, highlighting the need for transforming capabilities as it is important to adapt internal structures as the company grows. Overall, analysis found that dynamic capabilities can be developed from other resources than VRIN-resources, such as social and organizational factors. The interconnection between internal resources and strategic choices like PLG is central to understanding how different dynamic capabilities can be developed in practice.

### 5.4.1. Illustrated findings

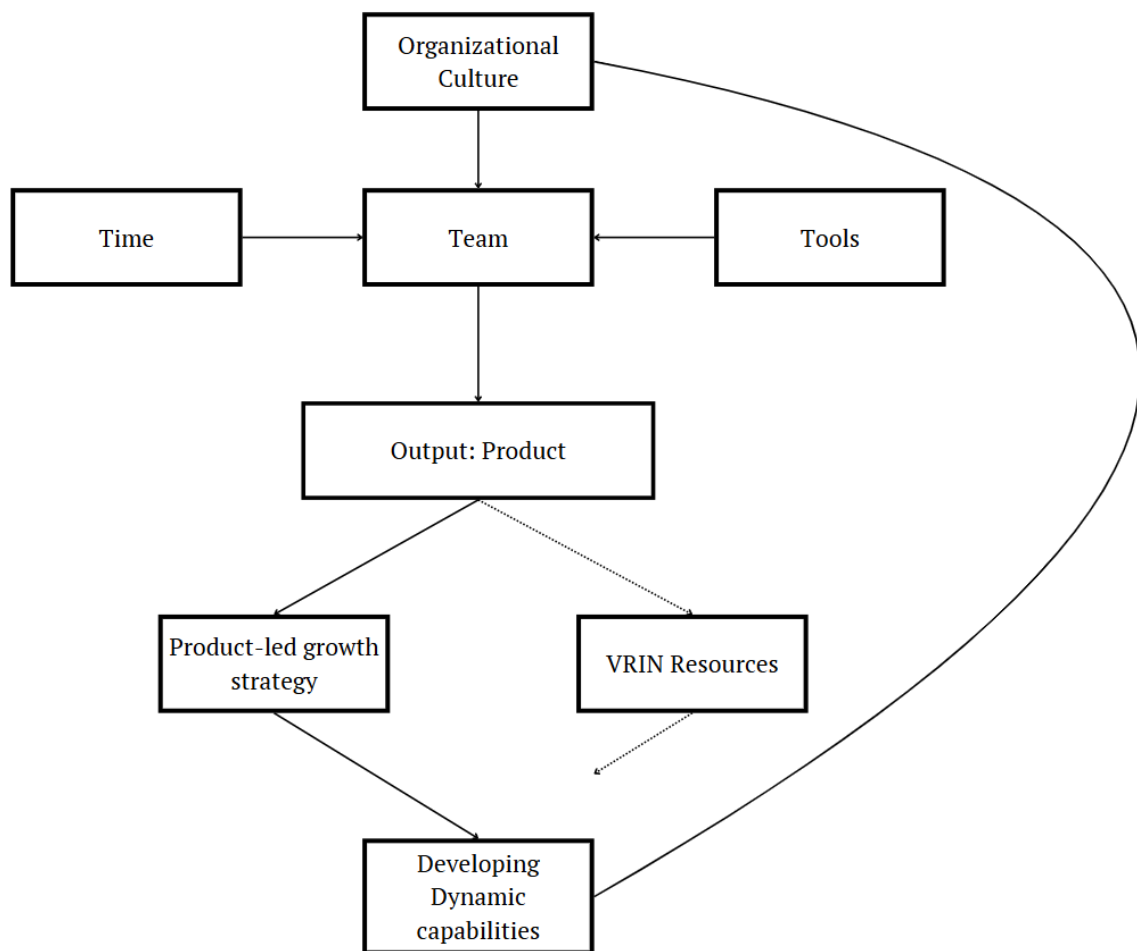


Figure 7, How organizational culture enables dynamic capabilities through internal resources and product-led growth strategy, selfmade.

#### Figure explained in steps:

This figure illustrates the key components and interrelationships identified in this thesis, regarding dynamic capability development in an early-stage tech startup. More specifically, the figure illustrates how organizational culture, internal resources and the product-led growth strategy interact to enable the development of dynamic capabilities, where the output, the product, plays a key but complex role.

#### Organizational culture

The first part of the figure contains the box of *organizational culture*, illustrating that this culture of “openness to change” plays an important role in influencing how the team works, in terms of collaborating and working with internal resources. This box is therefore placed at the top of the figure to illustrate the overall influence, hence also why the arrow goes down to the internal resources. It also showed to be the most influential resource regarding the company’s capability development, which is why there is also an arrow directly from organizational culture to the last box of the figure, developing dynamic capabilities.

### **Team, time and tools - the three T:s**

The other upper part of the figure illustrates the elements Time, Team and Tools, which are all internal resources that emerged from the empirical data, as many respondents described them as key resources. These three elements are collectively referred to as the “*Three T:s*”, as they all create a foundation for the firm to operate. The creation of this reference was created during the interviews, as a majority of the respondents mentioned these three internal resources as especially important. As also shown in the figure, the resources converge in the middle box - team, as team is the central point for coordinating and using time and tools effectively.

### **Product as output**

From the team, there is an arrow leading to the output - the product. This product, their AI-driven recruitment matching tool, is developed by using the three T:s while also shaped by the organizational culture. The product is central because of its reflection of integrating the use of internal resources, as well as enabling the firm to adapt the product-led growth strategy.

### **VRIN resources and PLG strategy**

As the product being the only identified internal resource fulfilling all VRIN criteria, this is shown through the dotted arrow going from “Output: product” to “VRIN Resources”, illustrating that although the product may fulfill VRIN, this is the only VRIN resource within the company. The dotted “half arrow” from “VRIN Resources” to “Developing Dynamic Capabilities”, illustrates that even though the company only has one resource fulfilling the VRIN criteria, they have still been able to develop dynamic capabilities effectively.

In contrast, the product-led growth strategy has a stronger link to developing dynamic capabilities, hence the solid arrow. The strategy emphasizes ways of working with cross-functional collaboration, iteration and feedback loops, which showed to support the dynamic capabilities. The figure also illustrates that working with the product-led growth strategy has enhanced the development of dynamic capabilities, rather than the product itself affecting the dynamic capability development.

### **Developing Dynamic Capabilities**

The box in the bottom, “Developing Dynamic Capabilities”, illustrates the outcome of the whole figure, including sensing, seizing, transforming as well as learning, integration and reconfiguration. As mentioned before, the solid arrow going from the top box, organizational culture, to the last one, “Developing Dynamic Capabilities”, highlights that the culture of being open to change was the strongest driver in the dynamic capability development of the firm.

## 6. Conclusion

As previously stated, the purpose of the thesis was to explore how dynamic capabilities are developed in an early-stage tech startup operating in an emerging market, with particular attention to how internal resources, such as VRIN resources, may influence capability development. This has also been done by examining potential gaps in VRIN resources and dynamic capabilities, to create a foundation of what the case company possesses and lacks to later be able to examine what develops the dynamic capabilities. Through a qualitative case study of Talendary, using the VRIN framework and dynamic capabilities, the two research questions have been answered:

*1. What gaps in VRIN resources and dynamic capabilities can be identified in the case of an early-stage tech startup?*

*2. How do internal resources, such as VRIN resources, and the product-led growth strategy influence the development of dynamic capabilities in early-stage tech startups?*

### 6.1 Gaps in VRIN Resources and Dynamic Capabilities

Regarding the first question: *What gaps in VRIN resources and dynamic capabilities can be identified in the case of an early-stage tech startup?* The findings showed that few of the company's internal resources meet all the VRIN criteria, indicating gaps. The only fully VRIN resource identified, were their product, their AI-driven recruitment matching tool. The thesis also found that the product is developed by using the three T:s while also shaped by the organizational culture, as illustrated in figure 7, found in chapter 5.4.1. Although most internal resources studied, such as time, tools, and team were valuable, they were not considered rare or inimitable. The only resource considered to fully meet the VRIN criteria, is the product itself. However, the findings also revealed that although not meeting the VRN criteria, the organizational culture played a central role in developing and enabling dynamic capabilities. More particular, factors such as openness to change, the flat structure, and collaboration supported multiple dynamic capabilities.

### 6.2. Organizational Culture and PLG Developing Dynamic Capabilities

In answering the second research question: *How do internal resources, such as VRIN resources, and the product-led growth strategy influence the development of dynamic capabilities in early-stage tech startups?* The thesis found that dynamic capabilities can be developed even though a company does not possess fully VRIN-resources. The findings indicated that cultural and social factors, such as trust, team culture, and willingness to learn, enabled both sensing, seizing and transforming activities. Furthermore, the product-led growth strategy showed to enable these capabilities by putting focus on continuous feedback, product development and strong internal alignment. However, the strategy posed challenges regarding internal communication and documentation. The thesis also found that the organizational culture plays an important role in influencing how the team works with their internal resources, earlier illustrated in figure 7, found in

chapter 5.4.1, by organizational culture being placed at the top and then emerging into the internal resources.

### 6.3. Contradicting Previous Findings Regarding VRIN

While previous studies, as mentioned in chapter 1, found that VRIN resources are very important in developing and using dynamic capabilities, this thesis highlights the importance of elements that do not meet the VRIN requirements, but still enable the use of dynamic capabilities. These can be team, time and tools, the three T's found in this thesis, as they were shown to be key resources in this company. Even though not VRIN, they all showed to enable the development of dynamic capabilities, with the team being the central point for coordinating and using time and tools effectively, illustrated in figure 7, found in chapter 5.4.1.

Instead of contradicting the earlier findings, suggesting that VRIN is crucial for dynamic capabilities, this thesis complements earlier studies and presents new findings that the relationship between VRIN resources and dynamic capabilities may look different in small, emerging firms than in bigger companies. By studying this case, it is also possible to conclude that social and organizational factors, that may not be VRIN traditionally, are important in creating and developing dynamic capabilities during the early stages of startups. For other early-stage startups, especially those using PLG as a strategy, these results emphasize the importance of implementing learning routines, strong collaboration and scalable communication.

Together, the findings of the thesis contribute to the literature by clearly showing that the relationship between VRIN resources and dynamic capabilities may differ in early-stage tech startups, compared to bigger firms, a link that has not been studied thoroughly before. In tech startups using a PLG strategy, other internal resources such as social and cultural dynamics may instead serve as enablers for developing dynamic capabilities, when VRIN resources are not fully established. These new insights contribute to scholars studying similar environments and adds a new way of empirical thinking into the view of capability development not only being created from VRIN resources, but also from more fluid and informal resources and structures within an organization. Furthermore, this provides helpful information for founders and managers in early-stage tech startups using a PLG strategy, but also for similar smaller firms operating in emerging markets, as the thesis highlights the importance of strongly embedded internal resources, whether they are VRIN or not. In this way, even early-stage tech startups or firms in similar contexts with limited resources, may be able to develop dynamic capabilities and grow.



## 6.4. Generalizability of the thesis

Although the study cannot be generalized across all companies as it adopted a single case study design, it offers insights into how internal culture and strategic choices may interact and develop dynamic capabilities, especially in early-stage tech startups. As stated in the methodological chapter, the case company and participants were carefully selected by the authors to be able to provide relevant answers regarding tech startups, to better increase the relevance of the findings beyond only what this thesis presented. While the generalizability of the thesis is limited due to the qualitative and context-specific approach, the aim has been to present findings that can be transferred to similar and comparable contexts, such as similar companies, rather than providing broader insights for other contexts outside this area of research. This has been ensured through a detailed and carefully put together analysis, as well as rich descriptions and discussions regarding the research questions.

It is also important to address that the aim of this thesis has not been to present universally generalizable results and conclusions, or to say what is right or wrong regarding dynamic capability development. Instead, the purpose has been to, by using a case company, explore the concepts more in depth to be able to provide a deep understanding of how internal resources and the PLG strategy may influence the development of dynamic capabilities. Therefore, this thesis is contributing more in the exploratory field by generating valuable insights rather than general universal recommendations.

## 6.5. Contributions

### 6.5.1. Theoretical contributions

This thesis contributes to the existing literature on dynamic capabilities and the resource based view (VRIN-framework) by offering a more in depth understanding of how early-stage tech startups develop and use capabilities even in the absence of fully VRIN-aligned resources. While some previous research (Lin and Wu, 2014) emphasizes the necessity of VRIN resources for capability development, this thesis reveals new theoretical findings. These are that organizational culture, although not traditionally characterised as a VRIN resource can play a critical role in enabling both dynamic capabilities; *learning*, *integration* and *reconfiguration*, but also dynamic activities: *sensing*, *seizing* and *transformation* for early-stage tech startups.

Additionally this thesis deepens the understanding of Teece's (2007) dynamic capabilities framework in early-stage tech startups. The thesis demonstrates that an organizational culture that is open to change and cross functional collaboration can enhance the development of dynamic capabilities. The findings do somewhat challenge the traditional assumption that small firms can have a hard time creating dynamic capabilities due to resource constraints and instead suggest that cultural and structural flexibility can be compensating contributors for developing dynamic capabilities.

### 6.5.2. Practical contributions

For entrepreneurs and managers in early-stage tech startups, the findings of this thesis underline the importance of fostering a culture of openness to change and cross-functional collaboration. Even if these are so called “soft values” and therefore can be very hard to measure, they have shown to be able to improve the firm's ability to develop dynamic capabilities.

This thesis also indirectly suggests that firms should not necessarily only focus on acquiring “high value” or expensive resources such as VRIN, but on learning how to combine resources, use them effectively and make them organizational routines. For example, AI tools and digital platforms are widely accessible, but their competitive value emerges when teams use them in unique, integrated ways that reflect their internal culture and strategic focus.

In addition the thesis also contributes to the understanding of the PLG strategy and its applicability for early-stage tech startups. The findings show that PLG can contribute to the development of dynamic capabilities since it allows for a lot of cross functional work and sensing activities.

### 6.6. Suggestions For Further Research

Since this thesis is based on a single case study, it includes limitations in terms of generalizability. Therefore, future research could benefit from conducting comparative case studies across several early-stage tech startups to validate whether the patterns observed at Talendary are present in other contexts.

Since the findings in this thesis puts a lot of focus on organizational culture it would be valuable to further investigate the role of culture as enablers of dynamic capabilities, particularly in environments where having few resources are common such as the startup environment. Another very interesting area to further study is the area of the product-led growth strategy, as PLG is currently not very popular in Sweden. However, since it seems to be an appropriate strategy for tech startups, our guess is that it will become more popular as more tech startups are started, and therefore worth studying more in depth. Future studies could explore its long-term effects on early stage tech startups structure, team dynamics and strategic flexibility.

Finally, what would be the most interesting according to us would be to do a longitudinal follow-up study on Talendary. Since it has now been established which internal resources they possess and how they use dynamic capabilities together with the PLG strategy it would be very interesting to see how the company evolves over time. Even though we are convinced that the company will be a success story it would be of much value to be able to investigate their future development in comparison to this thesis.

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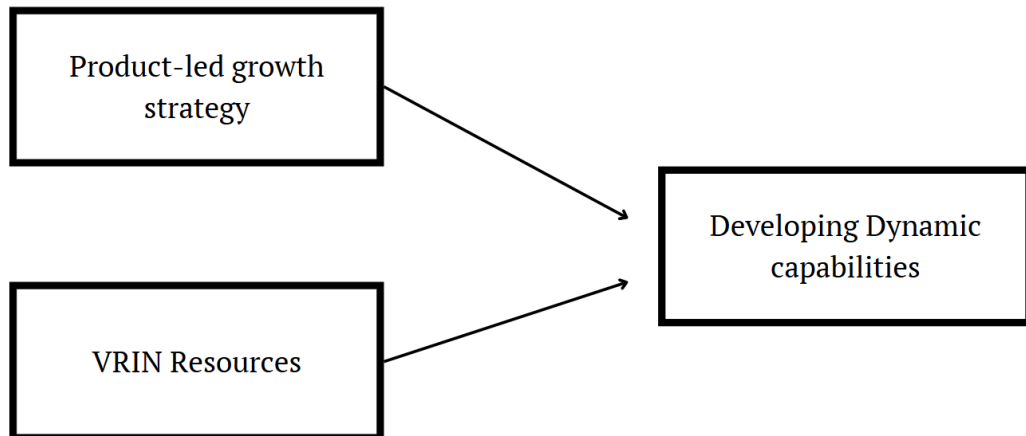
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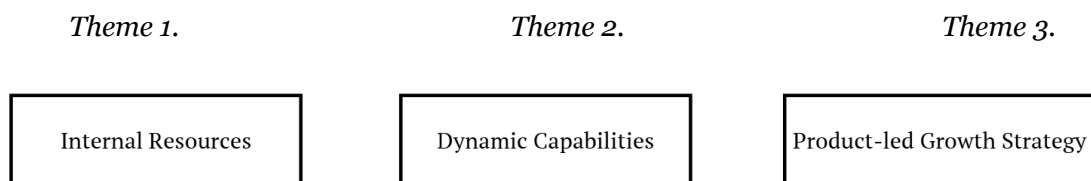
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## 8. Appendices

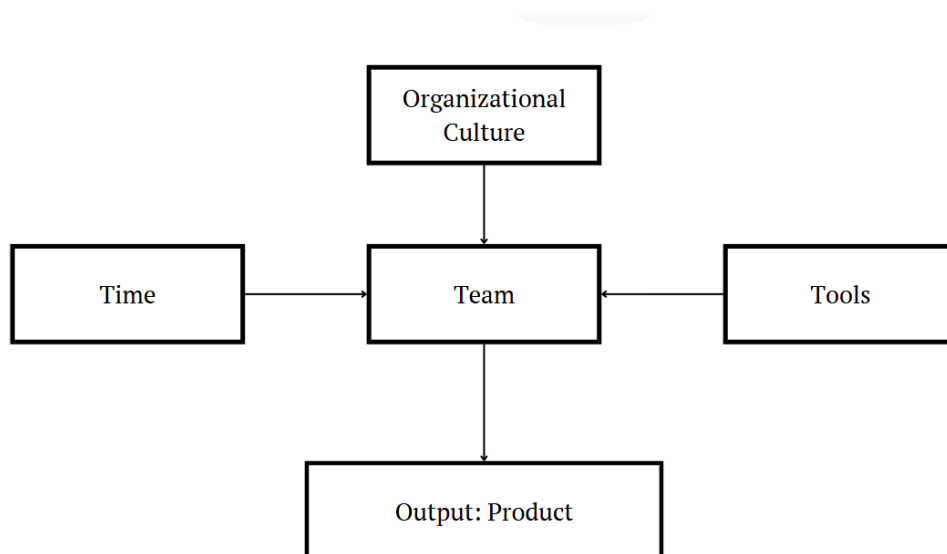
### 8.1. Figures



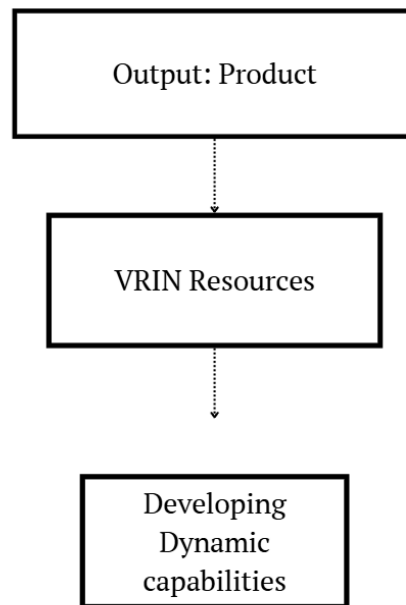
*Figure 1, Investigating concept of the thesis, Selfmade.*



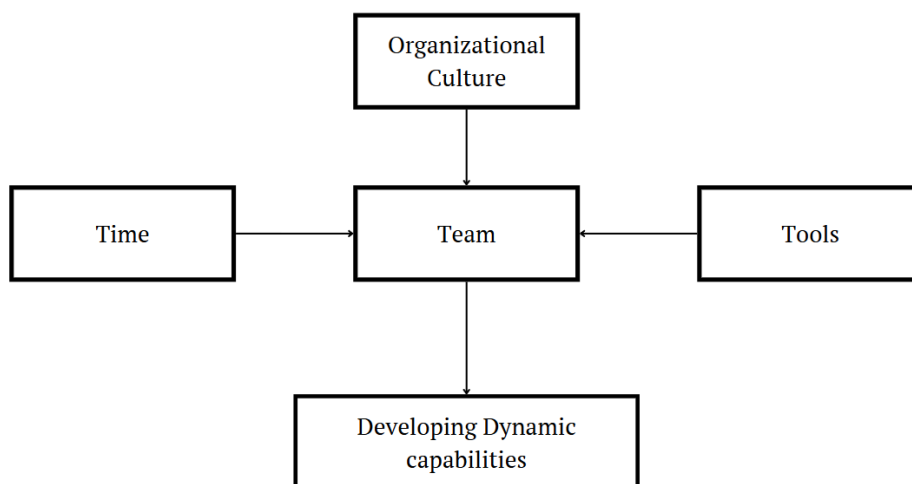
*Figure 2, Main themes divided.*



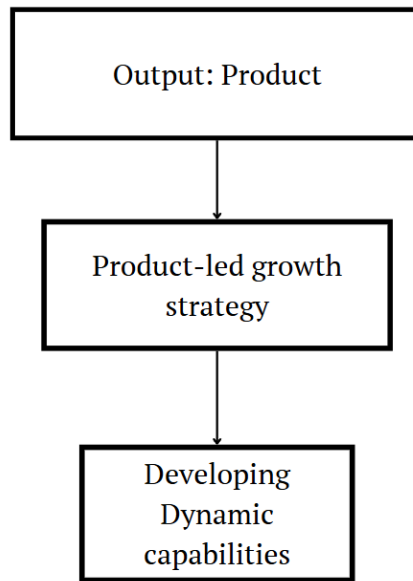
*Figure 3, The three Ts of internal resources working together, with organizational culture as foundation and the product as the output. Selfmade.*



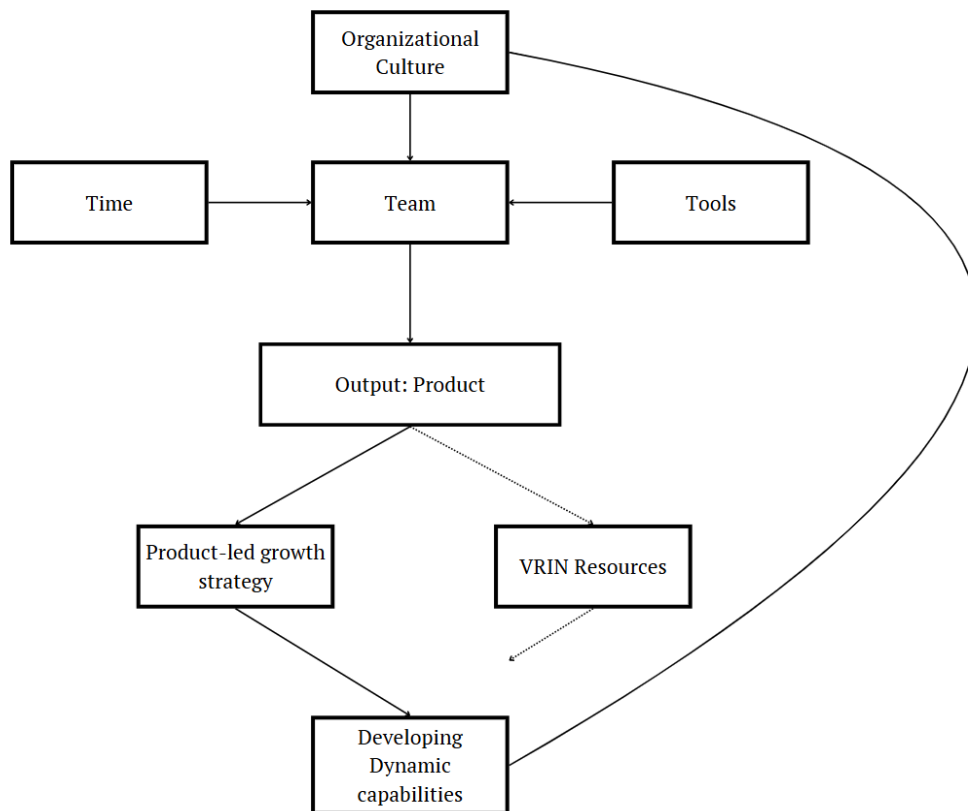
*Figure 4, A weak link between VRIN resources and dynamic capabilities, Selfmade.*



*Figure 5, Non-VRIN resources as Dynamic capabilities enablers, Selfmade.*



*Figure 6, PLG enhancing Dynamic capabilities development, Selfmade.*



*Figure 7, How organizational culture enables dynamic capabilities through internal resources and product-led growth strategy, selfmade.*

## 8.2. Tables

<b>Respondent</b>	<b>Role</b>	<b>Education</b>	<b>Years at talendary</b>
R1	COO (Chief operating officer)	MSc in Industrial Engineering and Management.	~ 1 year
R2	CTO (Chief technology officer)	Game Development - Design.	~ 1.5 years
R3	CMO (Chief marketing officer)	MSc in Industrial Engineering and Management.	~ 0.5 years
R4	CEO (Chief executive officer)	MSc in Industrial Engineering and Management.	~ 2 years
R5	CCO (Chief commercial officer)	MSc in Industrial Engineering and Management.	~ 1 year

*Table 1, Respondents and roles at Talendary, Selfmade.*



## 8.3. Interview guide

### **Theme 1: Internal resources**

*(Focuses on: What you have, what you lack, and what makes a practical difference)*

1. In what way has your team, your competence, or your technology contributed to your development over the past year?
  2. Are there any internal resources or factors that you believe are especially important for your ability to grow?
  3. Are there important resources that you lack or would like to develop further? How does that affect your work?
  4. Can you give an example of how a specific person, insight, or technology has changed the way you work or make decisions?
- 

### **Theme 2: Dynamic capabilities**

*(Focuses on: How you learn, adapt, improve – without using the term “dynamic capabilities”)*

1. When you notice changes in your external environment – such as customer needs or the market – how do you usually become aware of them?
  2. Can you describe a time when you needed to adapt or change the way you work?
  3. What made it possible to succeed in that change?
  4. Is there anything about your way of working that makes it easier to change or develop?
  5. Are there capabilities you know you need to develop in order to move forward?
- 

### **Theme 3: Product-led growth strategy**

*(Focuses on: How strategic choices such as PLG affect internal operations)*

1. How would you describe your current approach to growth or development?
2. In what way does your focus on the product affect how you work internally?
3. Have you made any strategic decisions that have required you to develop new ways of working or new skills?

4. What do you think you need to strengthen or develop going forward in order to continue growing?

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### **Finishing questions**

*(Focuses on: wrapping the interview up and taking a guess at the future)*

1. What are some of the main obstacles and risks looking forward?
2. What are some of the main opportunities or openings looking forward?
3. Where do you see the company in two and five years?

