

Unlocking lean innovation at large

Analyzing the success factors of internal lean ventures within large enterprises

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Unlocking lean innovation at large: Analyzing the success factors of internal lean ventures within large enterprises

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Dedicated to my parents.

Ihr seid das Fundament, auf welchem ich baue. Ihr seid der Ursprung meiner Geschichte.

Preface

When I set out to Delft in the middle of August 2016, I was not sure what was awaiting me. To be frank, I knew much about neither the university nor the Netherlands and had chosen the master's degree based on my intuition. Two years later, and I have come to love the TU Delft and the country which houses her. In the Netherlands, I found a new home, and my time in Delft made me the person who I am today. For all the great opportunities that you gave me, for all the people that I met through you, and for all the precious memories which I have of you: Thank you, Alma Mater.

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ii

Abstract

Context: Today's market environment is characterized by increasing competition. This competition forces incumbents to innovate if they want to sustain their competitive advantage. Large enterprises start to adopt methodologies pioneered within the startup world, like the lean startup methodology, the innovate. The adoption of this methodology has proven to be difficult, and incumbents face a lack of control with regards to these ventures.

Objective: The practical objective is to enable large enterprises to control and steer internal lean ventures (ventures following the lean startup methodology) effectively. The theoretical objective is to bridge the knowledge gap concerning the understanding of internal venturing and the application of the lean startup methodology in large enterprises.

Method: A case study within a large enterprise was conducted to answer the research question and reach the research objective. 16 in-depth interviews with relevant stakeholders were conducted to collect data. Finally, the results were validated through relevant literature and by comparison to the results of six additional interviews, conducted with two other large enterprises.

Results: The study found that two elements influence the success of the venturing process: First, the implementation of the venturing process itself (Section 5.1). Especially the alignment and coordination of different stakeholders as well as the quality of the employed metrics. Secondly, a set of additional factors arising from the context in which the process is embedded (Section 5.2). This context is made up of the mindset and culture of the company, the organizational environment as well as the quality of its adoption of the lean startup methodology. The analysis of resulted in the identification of the five recommendations to improve internal lean venturing within large enterprises. Details can be found in Section 5.4.

Conclusion: Implementing the lean startup methodology can help navigate this uncertainty surrounding innovation. This implementation requires reliable metrics, company-wide alignment, and the commitment to the methodology. Additional to the implementation, company and industry specific factors mediate the success of a venturing initiative. Large enterprises are advised to take an honest self-assessment and follow a searching and learning approach to iteratively and successfully optimize their process for maximal venturing success.

Keywords: Corporate Entrepreneurship, The Lean Startup, Internal Venturing, Innovation, Ambidexterity, Effectuation, Innovation Accounting, Case Study

Executive Summary

The continuous advancement of technologies has enabled entrepreneurs, who utilize them in creative and novel ways, to disrupt industries and potentially replace established incumbents (1). A famous example of a company shaking up a whole industry is Amazon, substituting retail stores through e-commerce and enabling people to experience shopping in an entirely different way ¹. Previously spared industries are rapidly reaching the tipping point of disruption, and incumbents face the threat of displacement. Large enterprises are forced to find strategies to effectively avert this risk, if they want to keep their positions as industry leaders.

Innovations, which enable this form of disruption, are called disruptive innovations (2). In recent years, especially startups and new companies have succeeded to generate disruptive innovations (3). Incumbents have started to adopt methodologies used by these entrants, to avert becoming disrupted and sustain their competitive advantage. One example for this adoption is the utilization of the lean startup methodology (4), pioneered within the startup world, through large enterprises for their internal venturing efforts. However, while the methodology has proven its value for startups, the adoption seems more difficult for large enterprises, as they possess different characteristics than startups (5). This dynamic can be seen since most venturing initiatives within corporates still fail (6).

Research interest around innovation management spiked in the last years, ranging from business modeling (e.g. (7), (8), (9)) to corporate entrepreneurship ((e.g. (10), (11), (12), (13)), but contemporary research often analyzes lean ventures and large enterprises independently. The application of the lean startup methodology for internal venturing, as described above, has not been systematically analyzed. This research tries to shrink this knowledge gap by enabling a better theoretical understanding of the facilitators and inhibitors of internal lean venturing. From a practical point of view, this research aims to enable large enterprises to launch and steer their venturing initiatives more successfully.

Theoretical Research Objective

Consolidate insights from relevant research domains and explore specific characteristics of internal lean venturing to enable a better understanding of underlying success factors.

Practical Research Objective

Enable large enterprises to control and steer internal lean ventures successfully.

Internal lean ventures often enjoy considerable autonomy to reach agility and dynamism. The parent company periodically validates the progress of these ventures and decides whether to continue funding or terminate the ventures. The operational management of these ventures is done entirely by the project team itself. Therefore, this research assumes that the validation decisions are the most significant influence the parent company has on influencing the success

¹ https://www.forbes.com/sites/deborahweinswig/2016/05/24/5-ways-that-amazon-is-shaking-up-retail/, retrieved on 15.07.2018

of the venturing process. Hence, this research analyzes the formal decision making within the venturing process and explores additional factors mediating the venturing success. To reach the research objectives, the following central research question was answered:

Central Research Question

How should the venturing process for internal lean ventures be designed to facilitate the success of these ventures?

Initially, an review of relevant literature was performed to conceptualize the process of internal lean venturing (Chapter 3). After formalizing the insights into a conceptual model (see in Figure 17), qualitative data was gathered through conducting 16 in-depth semi-structured interviews with relevant stakeholders of a large enterprise. Subsequently, the interviews were codified and analyzed to identify the formal venturing process as well as the other mediating factors (Chapter 4). To validate the results of the codification, a conceptual analysis was conducted by means of comparing the results to relevant literature, as well as the insights gained through six additional interviews, conducted with two other large enterprises (Chapter 5).

The codification and subsequent analysis of the interviewees found that two elements influence the success of the venturing process. First, as assumed, the implementation of the venturing process itself has a strong influence on the likelihood of success (as presented in Section 5.1). The analysis found that especially a lack of alignment and communication between different stakeholders leads to problems. The qualitative nature of the process requires the stakeholder to develop a shared understanding. This is not possible if there is no consensus on used measures and procedures. Moreover, the non-availability of reliable metrics or suitable tools to further hampers the process. Second, factors, arising from the context in which the process is embedded, influence the venturing success (Section 5.2). These factors were systematically analyzed and grouped into three categories: the mindset and culture of the company, the organizational environment (e.g. industry, business model, employment configuration). These results find sufficient support through comparison with relevant literature, as well as the additional interviews.

Further, the conceptual analysis resulted in the identification of five recommendations to improve the likelihood of success of internal lean venturing initiatives (Section 5.4). An overview of each is given in the following:

First, the controlling and decision framework within the venturing process should be lean and consistent. Acquiring these characteristics requires evaluating which information is required when, and applying a must-have approach to defer extensive formal requirements after the initial customer validation. The information which is used to validate the venture should be reliable. Reliable means that metrics need to be easy to retrieve should possess historical integrity as well as a plausible causality towards what they measure. Traditional project metrics, like return-of-investment or amortization rates, often do not fulfil these requirements. Therefore, they are not suited to steer on in the beginning of a ventures life cycle. They gain relevance in the later parts of the venture implementation. Further, the process of gathering and distributing these metrics should be supported through automation. (See Section 5.4.1)

Second, innovating requires the exploration and identification of novel market opportunities and business models. Validated learning should guide this process and be applied systematically. Venturing can be seen as continuous experimentation, in which entrepreneurs state and validate their assumptions to identify the needs existent within the market. Experimentation requires the establishment of a relevant baseline for metrics, to be able and put venture progress in perspective. (See Section 5.4.2)

Third, enabling the innovation function to work effectively requires the company to be dynamic and ambidextrous. Acquiring those characteristics requires allowing participating stakeholders to adapt their governance structure, as well as potentially free themselves from legacy processes and requirements which are hampering the venturing success. Further, the innovation unit should be able to hire people freely to acquire needed talent. Moreover, multiple ventures are never identical. The venturing process should be flexible enough to account for these differences. (See Section 5.4.3)

Fourth, the company should empower the employees to be entrepreneurial without reliance on external expertise. This empowerment requires providing the employees with suitable tools, for example, a low-code software, to build prototypes for initial validation themselves. This allows the company to explore more ideas and leverage the full potential of their workforce. To supplement these measures, the company needs to give employees the space to innovate in the form of resources and time. If these measures are not taken, the company will depend on external services, which are costly and slow, and risk to forfeit on potentially good ventures due to lack of time or other resources. (See Section 5.4.4)

Fifth and finally, the large enterprise should position itself to leverage the innovation potential within the company effectively. Levaring this potential requires the integration of innovation within the broader company by, for example, providing a shared and ideally tangible communication platforms, like demo days or cross-functional standups. Moreover, relating ventures to the firm's dimensions, like strategy, existing solutions, and target markets, allows every employee to identify ventures which are attractive to him. At last, the company should foster innovativeness by adapting the employment configuration regarding KPIs and incentives. (See Section 5.4.5)

Significant uncertainty surrounds radical and disruptive innovation, as both are dynamic and context-dependent in nature. Employing an effectual approach, like the lean startup methodology, can help mitigate this uncertainty and increase the chances of success of an entrepreneur. Implementing this methodology requires aligning the participating departments and stakeholders, employing reliable metrics and fostering innovativeness and collaboration within the company. Additionally, a large enterprise should adapt an implementation to company and industry-specific characteristics. This adaption requires the enterprise to take a realistic self-assessment and iteratively search for a, for the enterprise, optimal configuration.

Table of Content

Pr	eface .		i
At	ostract	t	iii
Ex	ecutiv	ve Summary	v
Fig	gures .		xii
Ta	bles		xiii
1	Intr	roduction	1
	1.1	Problem Statement & Research Objective	2
	1.2	Research Questions	3
	1.3	Research Structure	5
2	Lite	erature Review	7
	2.1	Approach to Literature Review	8
	2.2	Introducing Innovation	10
	2.2.]	Innovation and Innovation processes	10
	2.2.2	.2 Types of Innovation	11
	2.2.3	.3 Innovation Horizons	13
	2.2.4	.4 Disruptive Innovation	14
	2.2.	.5 Causation & Effectuation	15
	2.2.0	.6 Innovation and Certainty	16
	2.3	Large Enterprises	17
	2.3.1	Ambidexterity & Corporate Entrepreneurship	18
	2.3.2	.2 Corporate Innovation through Internal Venturing	19
	2.4	Startups and Innovation	20
	2.4.	.1 Startups, the successful innovators	20
	2.4.	.2 The Lean Startup	21
	2.4.	.3 Innovation through Effectuation	24
	2.5	Internal Lean Ventures	24
	2.5.1	.1 The Lean Startup within Corporates	24
	2.5.2	.2 Project Stakeholders	25
	2.5.3	.3 Project Life Cycle	27
	2.6	Measuring Innovation Progress	28
	2.6.	.1 Innovation metrics	28
	2.6.	.2 Indicator Categories	29
	2.6.	.3 Designing reliable metrics	30
	2.7	The interplay of lean venture and large enterprise	

3	Met	hodo	ology	34
	3.1	Res	earch Design	34
	3.2	Cas	e and Interviewee Selection	35
	3.2.1	L	Case Description	36
	3.3	Dat	a Collection & Analysis	38
	3.4	Inte	erview Structure	39
	3.5	Tra	nscripts & Coding Analysis	40
	3.6	Vali	dation & Generalizability	41
4	Res	ults.		43
	4.1	Pro	file of the Interviewees	43
	4.2	Dec	ision Framework	44
	4.3	Con	itextual Factors	47
	4.3.	L	Mindset & Culture	49
	4.3.2	2	Organizational Environment	52
	4.3.3	3	Lean Startup Method	56
	4.3.4	4	Opportunities	58
	4.4	Res	ults of the Validation Cases	62
	4.4.	1	Results of the interviews with Bank A	63
	4.4.	2	Results of the interviews with Bank B	56
	4.5	Sun	nmary of the Results ϵ	59
5	Con	cept	ual Analysis	71
	5.1	Ana	lysis of the Decision Framework	71
	5.1.1		Intake process	71
	5.1.2	2	Ongoing validation	72
	5.2	Ana	lysis of the Contextual Factors	76
	5.2.1	L	Mindset & Culture	76
	5.2.2	2	Organizational Environment	78
	5.2.3	3	Lean Startup Methodology	83
	5.3	Ana	lysis of Validation Cases	34
	5.3.1	L	Analysis of Bank A	85
	5.3.2	2	Analysis of Bank B	36
	5.3.3	3	Summary of the Analysis	36
	5.4	Mar	nagerial Recommendations	87
	5.4.1	L	Leaner and consistent controlling framework	87
	5.4.	2	Embed the validated learning methodology	39
	5.4.3	3	Dynamic innovation function	90

5	.4.4	Empower the startup/idea phase
5	.4.5	Strengthen the integration
6 C	Conclus	ion & Outlook95
6.1	Ans	wer to the Research Question95
6.2	Vali	dity & Limitations
6.3	Out	:look99
6.4	Cor	clusion100
Apper	ndix	
А	A Validation of findings through Bank A104	
В	Valida	tion of findings through Bank B105
Biblio	graphy	

Figures

Figure 1 - Decision matrix	4
Figure 2 - Structure of the thesis	5
Figure 3 - Research flow diagram	6
Figure 4 - Research components	7
Figure 5 - Overview of the different types of innovation	12
Figure 6 - Overview of the different innovation horizons	13
Figure 7 - Innovation focus of entrants vs incumbents	15
Figure 8 - Causation and effectuation visualized (21)	15
Figure 9 - Distribution of certainty over the innovation dimensions	16
Figure 10 - Relationship between certainty, knowledge and venture types	17
Figure 11 - Visualization of the build-measure-learn loop	22
Figure 12 - Characteristics of reliable metrics	23
Figure 13 - Exemplary organigram for a generic innovation function	26
Figure 14 - Stakeholder categories within this research	26
Figure 15 - Visualization of the four phases of startups (adapted from (72))	27
Figure 16 - Relationship between research components and theoretical chapter	31
Figure 17 - Conceptual Model	32
Figure 18 - Decision Framework Skeleton	33
Figure 19 - Overview of the decision process	44
Figure 20 - Distribution of stakeholder categories over decision instances	45
Figure 21 - Decision criteria for determining the current innovation phase	45
Figure 22 - Updated conceptual model	95

Tables

Table 1 - Overview over obtained literature	9
Table 2 - Tushman et al.'s innovation model (38)	11
Table 3 - Chandy and Telli's innovation model (39)	11
Table 4 - Number of interviews for the main case	36
Table 5 - Number of additional interviews for validating the results	36
Table 6 - Number of interviews for the main case	43
Table 7 - Familiarity of the interviewees with the methodology	43
Table 8 - Sentiment of interviewees familiar with the methodology	43
Table 9 - Sentiment of interviewees unfamiliar with the methodology	44
Table 10 - Overview over the information used as a decision foundation	46
Table 11 - Coding tree of the contextual factors	48
Table 12 - Challenges due to mindset & culture	49
Table 13 - Challenges due to the current culture	49
Table 14 - Challenges due to the differences in working with customers	50
Table 15 - Challenges due to differences in the type of work	51
Table 16 - Challenges due to differences in monetization	51
Table 17 - Challenges due to the organizational environment	53
Table 18 - Challenges due to being a professional service company	53
Table 19 - Challenges due to being in transformation	54
Table 20 - Challenges due to low embedding of entrepreneurship within the organization	55
Table 21 - Challenges due to the lean startup method	57
Table 22 - Challenges due to lack of familiarity with the methodology within the company.	57
Table 23 - Challenges due to not following the validated learning method	57
Table 24 - Overview of the opportunities	58
Table 25 - Opportunities with regards to the controlling framework	59
Table 26 - Opportunities with regards to the validated learning methodology	59
Table 27 - Opportunities with regards to the innovation function	60
Table 28 - Opportunities with regards to startup/idea phase	60
Table 29 - Opportunities with regards to the integration	61
Table 30 - Interviewee overview for Bank A	62
Table 31 - Interviewee overview for Bank B	63
Table 32 - Information asked for within intake form	72
Table 33 - Information presented during the ongoing validation	73
Table 34 - Reliability analysis of presented quantitative metrics	73
Table 35 - Analysis of the factors of mindset & culture	76
Table 36 - Analysis of the factors of the organizational environment	79
Table 37 - Analysis of the factors of the lean startup method	83
Table 38 - Overview over the suggested improvements	87
Table 39 - Overview of measures concerning a leaner and consistent controlling framework	.87
Table 40 - Overview of measures concerning the validated learning methodology	89
Table 41 - Overview of measures concerning a dynamic & ambidextrous innovation functio	n
~ ,	90
Table 42 - Overview of measures concerning empowering the startup/idea phase	91
Table 43 - Overview of measures concerning strengthening the integration	93
Table 44 - Overview of the validation of Bank A.	104
Table 45 - Overview of the validation of Bank B	105

1 Introduction

An unprecedented amount of competition characterizes today's market environment. Increasing globalization has led to bigger markets as well as more competitors. Simultaneously, the continuous advancement of technology has enabled disruptive innovations (2). Disruptive innovations are defined as innovations that utilize new technologies to end the predominance of an incumbent's product or service, effectively replacing it within the market. Disruption, therefore, describes the replacement of a market-leading company through a previously unknown or irrelevant competitor.

Disruptive innovations are often pioneered by small entrants with few resources (3). When incumbents are too focused on satisfying the highly specialized needs of their most profitable customers, they tie up their resources their existing offering. While doing so, companies potentially neglect to evaluate the advances made in enabling technologies. This neglect offers entrants the opportunity to utilize new technologies and start serving the mass market in a more cheap and efficient mannor. After successfully acquiring high percentages of the market share, entrants might move upmarket and potentially displace the incumbent.

Incumbents are forced to innovate and utilize new technologies to mitigate the risk of getting disrupted. Instead of only focusing on incrementally improving their offering, they need to explore new products, services or processes (14) as well as innovate their business model (15). Firms that do not succeed in pursuing these goals might not only lose market dominance with one of their offerings but potentially displaced completely (1).

Innovation, however, is dynamic, interactive and context dependent (16) and even companies, who invest vast amounts of resources into their innovation department, do not always succeed (17). Many new innovation methodologies arise to address this uncertainty. Whereas previous ones utilized the logic of causation, new methodologies follow the logic of effectuation (18). The logic of causation, on the one hand, assumes a particular outcome as given and focuses on acquiring the suitable resources to attain this outcome. The logic of effectuation, on the other hand, and opposite to the former approach, assumes a set of resources as given and focuses on pursuing the best possible outcome given this set of resources. As entrepreneurs are typically restricted in their resources, they often employ effectuation approaches to guide their actions (19). In doing so, they have been noticeably successful and researchers have started speaking of the entrepreneurial imperative of the twenty-first century (20).

One of these effectual methodologies is the lean startup methodology by Eric Ries (4) released in 2011. The methodology combines insights of agile product development, often applied in software development, with knowledge from lean management. Through an iterative process of defining and testing assumptions with prototyping and customer validation, the methodology advises to continuously adapt the strategy and aims to deliver an innovation sought for by the market. If the experiments prove the market not to be existing, the methodology relies on letting ideas fail early and inexpensively to make this process financially feasible (21). Since its release, the methodology gained a huge following, and many entrepreneurs see it as their method of choice. In an attempt to mirror the success of startups, many existing companies are starting to employ internal ventures. These enterprises often mimic the methods of independent entrepreneurs, and use, for example, the lean startup methodology to guide the implementation of the venturing process. Research suggests that internal startups should have an advantage over interdependent ones (22) as they can rely on the complementary skills and resources of the large enterprise. The corporation possesses necessary resources, power, scale and established complementary units like finance and marketing, whereas the startup contributes an idea, risk affinity as well as organizational agility (23). However, while the methodology offers a massive potential to companies, the adoption bears great uncertainties for large enterprises as they possess different characteristics than startups (5).

1.1 Problem Statement & Research Objective

Research has shown that the internal venturing initiatives often do not succeed, as companies fail to leverage their resources (6) effectively. The different characteristics of large enterprises in contrast to startups make it (5) necessary that companies adapt the methodology to their needs or change themselves to adapt to the methodology. Legacy processes and measures often do not fit the new methodology, and traditional control mechanisms potentially hinder the venturing more than they are helping (24). In practice, creating a successful venturing unit appears to be difficult with most internal ventures failing (6).

One of the reasons why the internal venturing proves difficult for companies is that it requires the company to employ a new behavioral logic, which potentially goes contradictory to the traditional logic. Whereas their existing business is most likely focused on following a planning and execution approach, venturing and the exploration of new opportunities requires a searching and learning approach. If this ambivalence is not possible, the company faces difficulties to control and steer the venturing process to foster success effectively. These difficulties do not only threaten the survival of many large enterprises but also means that valuable resources are wasted.

Despite more and more companies engaging in internal lean venturing, academia does not deliver a satisfactory answer on how to maximize the likelihood of success of venturing process. Past research focuses on many topics. The research on large enterprises explores the transformation processes, which companies can use to redefine their business model (e.g. (25), (26)) or foster ambidexterity (e.g. (27), (15), (28)). It analyzes company characteristics, which might act as enablers or inhibitors (e.g. (29), (30)) or discusses why this step, transforming the business towards innovation, is even necessary (31). Other research focuses on startups and answers questions on how to create a new business model (e.g. (32), (33), how to stress test assumptions (34) and how to validate and quantify progress (e.g. (7), (8), (9)).

While the previously listed research focuses on either the company or the lean venture, it does not account for the specific scenario of lean ventures being created from within a large enterprise. This research tries to shrink the knowledge gap with regards to internal lean venturing and enable companies to control and positively influence the venturing outcome. Therefore, there exist a practical research objective, as well as theoretical research objective. The practical goal is to allow companies to compete through innovation skills, instead of transformation skills. The practical research objective is defined as follows:

Practical Research Objective

Enable large enterprises to control and steer internal lean ventures successfully.

Further, the theoretical research objective is to consolidate research on startups, internal venturing as well as the lean startup methodology. The aim is to advance the understanding of the facilitating innovativeness within large enterprises and identify the success criteria of applying the lean startup method.

Theoretical Research Objective

Consolidate insights from relevant research domains and explore specific characteristics of internal lean venturing to enable a better understanding of underlying success factors.

The individual questions, which lead up to reaching the research objective will be explained in the following section.

1.2 Research Questions

This research analyzes the venturing process and attempts to answer the following central research question to reach the research objective:

Central Research Question

How should the venturing process for internal lean ventures be designed to facilitate the success of these ventures?

To answer this question, this research focuses on codifying and systematically analyzing the venturing process. Internal lean ventures often possess a high degree of autonomy. Parent companies steer these ventures solely through validation decisions, either continuing funding or terminating the project. As this means that the parent company doesn't influence the operational management of the ventures, this research assumes that the validation decisions are the essential elements through which the company controls the venture. Therefore, the analysis of this decision framework is the center of this work.

The first step of this codification is the clarification of the dimensions of the venturing process. This step includes identifying which *stakeholder* (people dimension) are participating in the internal lean venture, followed by identifying the different *phases* (temporal dimension) through which a venture goes. The first two sub-research questions are therefore as follows:

Research Sub-Question 1 Which stakeholder are participating in the venturing process? (People Dimension)

Research Sub-Question 2

Which life cycle phases does an internal lean venture follow? (Temporal Dimension)

These sub-questions will be answered using an analysis of relevant literature, corporate documents as well as management books. Answering these questions allows the development of a consistent reference point for categorizing decisions in terms of responsibility and time horizon. The differentiation between stakeholders is relevant to account for the different perspectives and goals of the different stakeholder when interacting with the lean venture.

Based on this information, interviews with relevant stakeholders will be used to identify *who* is taking *which* decisions *when* and *why*, as well as which information they use as a decision foundation for taking them.

Research Sub-Question 3 When are decisions taken over the internal lean venture?

Research Sub-Question 4 What is the aim behind each decision?

Research Sub-Question 5 Which information is used for each decision?

Answering these three sub-research questions allows the identification of the "as is" decision process by categorizing decisions into a matrix based on who (which stakeholder) is taking them when (in which phase):



Figure 1 - Decision matrix

This matrix represents the current implementation of the venturing process. Subsequently, all decision will be analyzed based on the following criteria:

- Is the decision based on reliable information?
- Is there any alternative information, which would be better suited to inform the stakeholders?

The answer to both questions then allows the identification of potentially sub-optimal decisions. These are decisions which are based on either unreliable information, or could be

informed through a different set of metrics. In addition to the matrix, and to account for factors besides the formal decision framework, the interviews will be scanned for additional influencing factors arising due to the context in which the venturing process is embedded. Within this research, they are termed contextual factors.

Research Sub-Question 6

Which contextual factors influence the success of the internal lean venture?

Finally, the insights of the analysis of the venturing process, together with the additionally identified factors, will allow answering the central research question. Gained knowledge will be used to create a guideline for designing an improved venturing process.

1.3 Research Structure

This thesis is structured into six chapters:



Figure 2 - Structure of the thesis

Chapter 2 contains the literature review used to lay the theoretical foundations and answer the first two sub-questions. It starts by providing a quick introduction to the history of innovation management research, and innovation in general. Following this, both units of analysis will be defined and introduced. The first unit of analysis is the incumbent parent company looking to innovate and facilitate long-term growth. The second unit of analysis is the internal lean venture as the incumbent's tool of choice for reaching that goal. Following that, contemporary research on the measurements of innovation project progress will be summarized to serve as a basis for analyzing information later.

Chapter 3 explains the chosen methodology. This includes the research design, a case study approach within a large enterprise, as well as a clear description of the case. Additionally, the chapter will present the methods for data collection, semi-structured expert interviews, as well as the methodology for subsequent analysis and, finally, discuss the validity and generalizability of the research results.

Chapter 4 introduces the results of the main case. First, the chapter presents general information about the interviewees. Second, it gives a detailed description of the current venturing process, as well as the decision framework. The description includes an overview over the actual decisions, as well as which stakeholder must take them, and a list of which information are used to take the decisions. Third, the found additional contextual factors will be listed and presented. Finally, the chapter concludes by introducing the results of the validation cases and summarizing the results.

Chapter 5 presents the contextual analysis of the results from Chapter 4. Here sub-question three, four, five and six will be answered. To answer these questions the decision framework, as well as the contextual factors, will be analyzed and evaluated by evaluating it based on insights from academic literature and additionally comparing it to the insights won in the validation cases.

Finally, Chapter 6 ties together the loose ends and answers the central research question by concluding from the analysis in Chapter 5. Further, the chapter discusses the validity and limitations of the research, as well as it gives the conclusion, as well as an outlook on further research. Finally, the author of this thesis provides a short reflection on his master program.

The following graphic visualizes the research flow, shows the different methodologies applied and references the chapters and sections, in which the different research questions get answered:



Figure 3 - Research flow diagram

2 Literature Review

This research aims at exploring how large enterprises should design their venturing process to effectively control and positively influence the success of their internal lean ventures. It tries to contribute to the question of how the respective characteristics of the large enterprise enable or hinder the success of the internal venturing process. The complementary nature of both organizational structures can allow a synergetic junction or, if the friction through differences cannot be mitigated, mean, that the relation of both will prove unsuccessful.

The following sections will give an overview of insights drawn from traditional and contemporary research to provide a theoretical foundation. Initially, the chapter presents research on innovation and innovation management. This is done to provide necessary background knowledge on innovation as such. Then, the large enterprise will be discussed. This includes introducing the reasons why and how companies feel to engage in internal entrepreneurship. Next, startups and the lean startup methodology (4) will be introduced. Afterwards, bringing the large enterprise and the lean startup together, internal lean ventures will be defined. Finally, the state of research on measuring project progress of innovation projects and lean ventures will be presented, to prepare the validation of the decision framework later on.

The following diagram attempts to visualize the research context and its different components:



Figure 4 - Research components

The large enterprise is the main unit of analysis and constitutes the context in which the other components of this research have to be analyzed. It houses the internal lean ventures as well as it employees all relevant stakeholder which interact with the venture.

The internal lean venture is part of the organizational structure of the large enterprise and therefore depicted as a sub-part of the bigger company. It attempts to reach the goal of

innovation. Additionally, lean ventures follow a specific life cycle, which differs from traditional projects and influence the decision making surrounding them.

The yellow circles, coming out of the stakeholder field, are meant to represent stakeholders with different level of interaction with the venture. Some stakeholders are assumed to only focus on the work in and around the lean venture (circle 1). Others handle the integration and communication between the venture and the parent company (circle 2). Further, some stakeholders do not interact operationally with the lean venture but influence it through high-level decisions (circle 3 and 4).

The last relevant component for this research are innovation project metrics. These are not specific to the context of internal lean ventures, but instead generally applicable to innovation projects. They are essential to analyze decisions, as suboptimal metrics will lead to suboptimal decisions.

2.1 Approach to Literature Review

The initial gathering of literature followed a semi-structured approach. Since innovation spans many research domains and has seen research from many different angles, there exist overlaps as well as duplications from authors of different fields. The initial aim was therefore to accumulate a vast but relevant body of knowledge. The author of this research relied on the search through well-known search engines, both the ones which are focusing on multiple publications like Google Scholar or ResearchGate, as well as publisher specific search engines like, for example, Elsevier or IEEE (Institute of Electrical and Electronic Engineers) Xplore. The keywords used to identify relevant literature can be split into different categories:

The first set of keywords identifies the broader type of research domains, which were assumed to be relevant for the analysis of lean ventures:

- Innovation Projects / Management
- Agile Projects
- Lean Projects
- Corporate Entrepreneurship / Intrapreneurship
- Startups
- Business Modelling

The second set of keywords characterize concepts, which are specifically relevant for lean ventures or the integration of lean internal ventures and large enterprises:

- Lean Thinking / Management
- Innovation Accounting
- Ambidexterity
- Organizational Structure

The last set of keywords focuses on the operational side of managing lean ventures and tries to identify literature relevant for steering ventures and quantifying venture progress. They were used in junction with keywords of set one or set two so to ensure the relevance. An exemplary

search could be "Innovation Projects Quantification" or "Lean Projects Forecasting". The list of keywords is:

- Quantification
- Operating Controls
- Success Factors
- Forecasting
- Estimating
- Measure
- Metrics

Additionally to using the direct results, the search engine recommended results were analyzed. After retrieving the first set of literature, an Excel sheet was used to structure the evaluation. It contained the title, year and a self-written description to summarize the relevance of the research. Following that, the literature was loosely sorted into four categories: Related, but not relevant; Relevant and of interest for the research background; Relevant and of interest for the literature review; Relevant and of immediate interest for analyzing specific (sub-)research questions.

Then, the author scanned both the bibliography as well as the list of citations of relevant and immediately interesting papers to make sure and generate a holistic overview of the literature. The following table shows an overview of the amount of obtained literature:

Category of Literature	Number of publications
Not relevant	68
Relevant – Background	62
Relevant – Literature Review	43
Relevant – Specific research components	24
Total	197

Table 1 - Overview over obtained literature

Any paper found to be relevant, either for background, literature review, or specific research components, was directly used in the context of this research. Additionally to this body of publications, the author found 22 books, with varying degree of relevance and academic credibility. Around half of them (9), including the books from Eric Ries, come directly out of the practical domain of lean startups and were used more inspirational and supplemental rather than as a grounded foundation for this research.

Following this presorting, the author further categorized the publications relevant to this research. They included 129 publications, which were identified as relevant. Each of them was analyzed with hindsight to which individual research question (Context, Life Cycle, Stakeholder, Quantification) it relates. Publications, which do not fit one specific research questions, but were previously identified as relevant were kept nevertheless.

Afterwards, keywords were added to each entry which was found to be relevant (specifically for one research question, or generally for the broader body of research). These keywords were not only a mere copy of the keywords as found in each publication, but rather associations the

author of this thesis had between the respective paper and the components of this research. These keywords included information about the research domain or the research component it relates to, like:

- Ambidexterity
- Effectuation and Causation
- Corporate Entrepreneurship
- Business Modelling
- Lean Life Cycle
- Stakeholders and Roles
- Quantification

The last step of the literature search was then to thoroughly read the individual publications and create notes which contain the concentrated information relevant to this study. Notes were taken in an extra file for each publication, and a link to the notes was added into the Excel sheet for easy access. These notes included direct quotes, summarizations of key concepts introduced in the publication or methodological considerations as put forward by the respective author.

During the writing of the actual literature review, the sheet was then used to find specific papers through their category or keywords and to access relevant notes easily. For managing the citations, the software Mendeley was used together with the Word plugin.

2.2 Introducing Innovation

Innovation as a concept has received much attention in the last decades. With rising competition through the growing integration of international markets, more and more firms rush to improve their innovation capabilities. Only firms, which successfully innovate, can sustain a competitive advantage through time and firms that fail to do so disappear (1).

In the following, the concept of innovation will be presented. This section introduces the innovation process and evaluates which types of innovations exist and how they distinguish themselves from each other regarding time horizon, novelty and certainty, to enable an insight into why and how the large enterprise employs internal ventures.

2.2.1 Innovation and Innovation processes

Research literature uses of a combination of three characteristics which a product, process or service has to possess (35) to be an innovation:

• Novelty:

It must be an idea new to the market and non-obvious

- Implementation: The idea needs to be developed and transformed into product, process or service
- **Commercialization:** This product, process or service then must be commercialized

Following this definition, the activity of innovating can then be defined as the act of perceiving a novel idea as well as subsequently developing it into a product, process or service followed by

introducing it into the market for successful commercialization. Through this commercialization, the innovation leads to the growth of the company and the economy as a whole.

Traditionally, the process of innovating has been seen as a linear process, which consists of sequential and plannable steps (36). However, as Newell (36) puts it, innovation is not rational and does not possess definable parameters that could be tweaked to generate predictable outcomes. Todays accepted view is that innovation processes are characterized as dynamic, interactive and context dependent (16). To describe the contrast between both views, Newell writes (36)[p.194]: "In contrast to the linear model, process views depict innovation as a cumulative and iterative set of episodes, activities and fortunate (and unfortunate) coincidences, where multiple actors, multiple forms of knowledge and organizational tasks interact, and serendipity has a major role to play".

That innovation cannot easily be managed and is surrounded by uncertainty puts much pressure on to companies, and it constitutes a risk for them since this means putting down an investment when there is an uncertain result. According to Ortt (37), only one in three products becomes a success, with only marginal improvements of this statistic over the last decades.

2.2.2 Types of Innovation

Theoretical models classify innovations in different ways, and can be distinguished by their perspective and focus.

Tushman et al.'s model (38), for example, focuses on whether an innovation creates a new or targets an existing market, and whether the technology used to enable it is only an incremental improvement or a radical novelty. This results in the following categorization:

Markot	Technology	
iviai Ket	Incremental	Radical
Frieting	Incremental product, service,	Major process innovation
LAIsting	process innovation	
Now	Architectural Innovation	Major product, service
INCW	Architectural innovation	innovation

Table 2 - Tushman et al.'s innovation model (38)

Chandy and Telli's model (39), on the other hand, while also including the technological newness as one dimension, choose the customer need fulfilment per dollar as the second dimension, instead of the market newness:

Customer need fulfilment	Newness of Technology	
per dollar	Low	High
Low	Incremental Innovation	Technological Breakthrough
High	Market Breakthrough	Radical Innovation

Table 3 - Chandy and Telli's innovation model (39)

What these models have in common is that one dimension is related to technology, while another dimension focuses on people. The author of this thesis adapts Tushman et al.'s model by defining the dimensions as the amount of prepossessed technology knowledge or market knowledge still applicable to the innovation. Innovation can then be discriminated based on whether it utilizes a high amount of existing knowledge or a low amount of existing (market and/or technology) knowledge. The reason why this classification was chosen for this research, is because it allows assessing the uncertainty from the perspective of the innovating actor. This insight into the uncertainty for the innovator is relevant since, as Section 2.2.6 will explain, the degree of uncertainty has implications on how a project should be conducted. The following list attempts to illustrate this:

• Incremental Innovation:

The incremental innovation in the top left cell of both tables (Table 2 and Table 3) utilizes high amounts of previously existing knowledge with regards to both the technology and market.

• Architectural or Major Product/Service Innovation:

The innovation in the bottom left or top right cell of both tables (Table 2 and Table 3) utilizes high amounts of previously existing knowledge with regards to one of both dimensions of technology and market and requires additional knowledge with regards to the other dimension.

• Radical Innovation:

The radical innovation in the bottom right cell of both tables (Table 2 and Table 3) utilizes low amounts of previously existing knowledge with regards to both technology and market and requires the acquisition of additional knowledge about both.

The classification model used in this research is visualized in Figure 5.



Figure 5 - Overview of the different types of innovation

2.2.3 Innovation Horizons

According to Baghai et al. and his well-known Three Horizon Framework (40), innovations can are directed at one of three different time-horizons. Horizon 1, representing the short-term, is about extending and defending the core businesses of the enterprise. Horizon 2, representing the mid-term is about exploring new growth opportunities in the form of businesses or markets that contribute to the immediate growth. Finally, Horizon 3, representing the long-term, is about finding the next big thing. The goal of Horizon 3 is to develop experimental businesses, which become the basis of continuous growth and the core-business of tomorrow.

Focusing on Horizon 1 and early Horizon 2, on the one hand, means exploiting the existing product and service offering and is termed as exploitation within this research. Focusing on late Horizon 2 and Horizon 3, on the other hand, means exploring the business opportunities of tomorrow and is termed as exploration within this research.

These three horizons can be put in relation to the, in Section 2.2.2 introduced, types of innovation. Horizon 1 focuses mainly on the exploitation of already possessed knowledge with regards to both technology as well as market knowledge. Horizon 2 focuses mainly on the combination of possessed knowledge with regards to one dimension and the acquisition of new knowledge with regards to the other. Finally, Horizon 3 focuses mainly on the exploration and following utilization of new knowledge with regards to both technology and market knowledge.

This relationship can be visualized as follows:



Figure 6 - Overview of the different innovation horizons

The author of this research chose to adopt the Three Horizon Framework, because of its practical relevance. It is advocated for by, for example, McKinsey (41) as well as the

International Training Centre², an advanced vocational training institute established by the International Labour Organization and the Italian Government. Additionally, it offers a simple theoretical conceptualization of how to classify innovation projects and can serve companies as a simple way of understanding differences in investments within their innovation portfolio.

2.2.4 Disruptive Innovation

In 1995, Prof. Christensen introduced one of the newest additions to innovation research, when he first spoke of so-called disruptive innovation (2). The name giving dynamic of disruption describes the phenomena that a small company with few resources successfully challenges an incumbent company, disrupting their established business model.

This disruption happens when incumbent companies solely focus on improving their existing offering to cater to the needs of their most profitable customers, while simultaneously neglecting a pool of relative low profitable customers. Schilling (3) calls this group the "segment zero", and describes it as the low-end and mass markets which get neglected by companies focusing on high-end markets. The opportunity for entrants arises when technologies improve faster than customer demand or than customers can learn and adapt their working procedures. This outpacing of the needs of the mass and low-end market can lead to low-end technologies fulfilling the needs of these markets more cheaply and efficiently than high-end solutions. Thus, while the incumbent companies focus on their established customers, the low-end market becomes a breeding ground for powerful competitors.

While margins might be unattractive at first, this can change due to, for example, further technological progress or economies of scale. Entrants can target this overlooked market segment, establish a strong market position and move upmarket as soon as their product or service gets traction. Most disruptive innovations tap into new markets and create and satisfy new customer demands (42) by utilizing new technologies, enabling them to revolutionize the way in which a product works or service is delivered (43). Once this revolution has happened and the entrant's solution fulfills the needs of the customers better than the incumbents, the incumbent has become disrupted and in the worst case starts to decline relatively fast.

When relation between the dynamics of disruptive innovation with the innovation types (2.2.2) as well as the innovation horizons (2.2.3) can be described as follows: An opportunity for a disruptive innovation arises, when the incumbents solely focus on exploiting their core business by delivering increasingly sophisticated but specialized high-end solutions to their most profitable customers. While this means that they potentially produce major product/service innovations, only a few specific (and profitable) clients will require the improved efficiency for a higher price. Entrants, on the other hand, can then focus on exploring new opportunities, utilizing new and innovative technologies and spotting and creating new market opportunities. If the entrants can find such an opportunity, they can rapidly establish a position in the market and become a direct competitor to the incumbents. This relation is visualized in Figure 7.

² http://training.itcilo.org/delta/Foresight/3-Horizons.pdf, retrieved on 29.04.2018



Figure 7 - Innovation focus of entrants vs incumbents

2.2.5 Causation & Effectuation

When analyzing the different modus operandi of exploitation and exploration, researchers talk about two different kinds of behavioral logic. These are causation and effectuation (18). Causation describes the approach of taking effect as given, which is assumed to be achievable by selecting the right means. It can also be described as a planning and execution-oriented approach. Effectuation, on the other hand, operates exactly contrary by assuming the available means as given and selecting the best from the achievable effects. It can also be described as a searching and learning-oriented approach. The causation approach parallels more traditional perspectives on exploitation in innovation, while the effectuation approach focuses on exploration of innovation. Both approaches have their justification depending on the accuracy with which an entrepreneur can predict the future. A quantitative study has shown that effectuation outperforms causation until the point, where the entrepreneur can predict the future accurately 75% of the time (19). This is visualized in Figure 8.



Figure 8 - Causation and effectuation visualized (21)

2.2.6 Innovation and Certainty

Certainty, according to the Cambridge Dictionary³, is defined as:

• Certainty:

The state of being completely confident or having no doubt about something.

"Having no doubts" means being confident that in 100% of the cases one's judgments will be correct. This state describes that the possessed knowledge allows to understand and predict a situation accurately. The degree of certainty surrounding an innovation project is essential since, as described in 2.2.5, it informs the choice of which behavioral logic (effectuation or causation) best to apply.

The following graphic relates the innovation dimensions, as used in Sections 2.2.2, 2.2.3 and 2.2.4, to the concept of certainty and visualizes the different levels of certainty surrounding any given innovation project:



Figure 9 - Distribution of certainty over the innovation dimensions

Finally, the graphic below attempts to combine all previously introduced concepts. It shows the difference between traditional projects and internal lean ventures (which will be defined in 2.5) in relation to innovation horizon, knowledge applicability, certainty of context, and behavioral logic:

³ https://dictionary.cambridge.org/de/worterbuch/englisch/certainty, retrieved on 10.07.2018


2.3 Large Enterprises

This section introduces the first unit of analysis, the large enterprise. It defines large enterprises as used in this research and relates them to the concepts of innovation, which were introduced in Section 2.2. Additionally, the concept of corporate venturing will be presented as well as how and why large enterprises engage in it.

Definitions, of what classifies as a large enterprise, differ substantially. While the European Union defines every firm with more than 250 employees as a large enterprise⁴, France only defines enterprises as large, if they possess at least 5000 employees, or an annual turnover greater than 1.5 billion euros, and a balance sheet total of more than 2 billion euros⁵.

To not engage in definitory nitpicking and because a specific definition is not needed in the context of this research, and this work will use the following definition:

A large enterprise is a company, which:

has more than 1000 employees; has dedicated, full-time IT staff with special knowledge to handle the information needs; possess several office locations domestically and internationally; possesses an established process apparatus to organize the work logic of the company.

This definition was written for this research and attempts to account for the, in this research relevant, characteristic of possessing a fully developed process landscape and organizational structure.

⁴ http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Enterprise_size, retrieved on 03.04.2018

⁵ https://www.insee.fr/en/metadonnees/definition/c1035, retrieved on 03.04.2018

2.3.1 Ambidexterity & Corporate Entrepreneurship

While most large enterprises are successufl in developing their core businesses directed at Horizon 1 and early Horizon 2, they fail to employ managerial tools adequately and practices to create new businesses for late Horizon 2 and Horizon 3 (40). Often, even if incumbent companies can utilize novel technologies, they fail to spot market opportunities outside of their core businesses (44).

Many established firms try to fight this phenomenon, termed innovation blindness, but the performance of the last years shows this often stays unsuccessful. Many startups triumph in capturing value and successfully disrupted incumbents and markets. Companies like Airbnb (45), Uber (46) or Medium changed the way people consume and experience respectively hotel, transportation or publishing services, and they did so by coming out of nowhere.

This newly risen competition has been a wake-up call for corporates and forced them to rethink their innovation approach. The critical challenge for companies is to house the contradictory logics of exploitation and exploration effectively. A successful company needs develop its ambidexterity (47), which is the combination of adaptability, which means the skill to quickly move toward new opportunities and adjust to volatile markets, as well as alignment, which describes a clear sense of how value is being created in the short-term. Often this means that an ambidextrous organization combines multiple company structures to address the diverse innovation requirements concurrently (38).

Research that focuses on these innovation and renewal activities is the field of Corporate Entrepreneurship (CE). Related fields and popular synonyms include organizational entrepreneurship and intrapreneurship (10). CE manifests itself in companies either in the form of corporate venturing (CV) or strategic entrepreneurship (SE) (11).

CV can further be broken down into internal corporate ventures (ICV) and external corporate ventures (ECV) (12). ICV describes ventures which are created within and owned by the corporation, while ECV are ventures which are created external to the firm. While the former are directly integrated into the corporate structure of the corporation, the latter is bound through subsequent investment and acquisition. The focus of this research lies in internal corporate venturing.

The way in which corporates embed internal lean ventures into their structure differs from corporation to corporation. Research suggests that a degree of autonomy should, and regularly is, granted to the entrepreneurial team by decoupling the unit from the parent company structure (13).

While the exploitation of existing businesses works better in a well-structured environment with well-defined procedural and bureaucratic structures (48), exploring new opportunities seem to work better with flexible routines and processes of trial-and-error learning (13).

Research on the survival of corporate venture departments (CVD) has shown, that they need to adopt an ambidextrous orientation by combining dynamic as well as procedural skills.

Successful CVDs regularly exploit existing firm capabilities while continuously managing the relationship with senior executives and other business units within the company (49). Ambidexterity on the level of the CVD means that, while the main focus of the unit lies on exploring new opportunities, it is essential to integrate it in the activities of exploitation-oriented sibling units.

2.3.2 Corporate Innovation through Internal Venturing

Research found four relevant issues when implementing innovation in a corporate context (6):

- 1. Understanding which kind of innovation is sought
- 2. Aligning the reality of managerial roles with corporate entrepreneurship
- 3. Effectively redesigning operating controls
- 4. Training and preparing individuals

Issue 1 is addressed in the context of this research as the focus lies solely on internal ventures. ICV in itself is a kind of innovation and directly relates to the ambidexterity of organizations, by enabling the company to foster the development of new ventures directed at Horizon 2 and Horizon 3 detached from the business as usual. This detachment happens by freeing the ventures from the bureaucracy of the parent company through starting a (more or less) independent unit, which possesses its own organizational structure and interacts with the parent company through a strictly defined framework (as opposed to a full integration as a traditional project).

While issue 4 has some relevancy for internal ventures, this work focuses mainly on issue 2 and 3 with an emphasis on issue 3 as these directly touch upon the research question of how the decision framework within the internal venturing process has to be designed to maximize control and the likelihood of success of the venture.

Issue 2, the coordination of managerial roles, speaks about the importance of adapting the employment configuration to the reality of corporate entrepreneurship, by realigning, for example, the incentive structure and performance evaluation with innovative behaviour. Additionally, it is about strengthening the cooperation between senior-, middle, and first-level management. Managers play an essential role in an organization's capability to realize its innovation strategy (50). Nevertheless, opinions differ about the extent to which it is possible to foster both managerial skillsets needed for respectively entrepreneurship and traditional operation. Some researchers state that the roles of an employee and entrepreneur are mutually incompatible (51).

Issue 3, the effective redesign of operating controls, speaks about the difficulty to align differences in performance characteristics of innovation and traditional projects and ventures, which potentially require different measurements. While previous authors have spoken of the release of the "entrepreneurial hostages" (e.g. (52)(53)) through the abolishment of organizational constraints, they potentially ignored the need of an organization to steer initiatives in a certain direction and align ventures with the strategic direction the company has chosen for itself. At first view, both corporate entrepreneurship and operating controls may

seem to be inherently at odds, but operating controls can be considered essential and part of the "hardware" of organizations (54) so that the complete abolishment of operating controls should not be considered the goal of any integration. Rather an adaption seems appropriate as research has shown that control systems can be essential to the development of new products and technologies (24). A lack of control mechanisms within innovation activities tends to lead to "an incoherent mass of interesting but unrelated opportunities that may have profit potential, but that do not move [those] firms toward a desirable future" (55)[page 277].

These challanges lead to the issue at heart of this research and emphasize the importance of this research: how should the large enterprise design the venturing process to enable ambidexterity within the company and foster successful internal ventures. Answering this includes both rethinking the operational controls and decision framework, which embed the internal venture into the corporate structure, as well as reevaluating the context of the process like, for example, the organizational configuration with the hindsight of incentive structure, career path et cetera.

2.4 Startups and Innovation

This section introduces the project methodology underlying internal lean ventures: the lean startup methodology. The introduction helps developing an understanding of the specific characteristics that these ventures possess. This understanding is critical to analyze whether the current venturing process and the decision framework foster or hamper the success of internal lean ventures.

2.4.1 Startups, the successful innovators

Recent developments have shown that incumbent companies increasingly face difficulties to stand their ground. This dynamic can be seen, among other things, in the decreasing average lifespan of S&P 500 companies. Innosight (56) reports that the average tenure of S&P 500 companies has decreased from 33-years in 1964 to 24-years in 2016. Their forecasts predict an additional bisection of this value to 12-years by 2027 and can be explained through the increasing success of startups.

This trend did not go unnoticed by the corporate world, and a survey (57) in 2017 found that 80% of the responding business leaders recognize the need to transform and adapt. Most agreed that it is necessary to both expand within existing markets and defend their core business while simultaneously investing in new growth businesses as well as entering new markets.

While technologies revolutionize the way the markets function, with digital platforms leading to the disruption of entire industries, especially startups excel in exploiting those new opportunities. An example (56) for this is, the continuing decline of the physical retail industry with digital competitors replacing established players. Again, the S&P 500 index mirrors this trend, and while in 2000 the top four companies were industry leaders like General Electric, ExxonMobil, Pfizer, and Citigroup, this position is now occupied by digital companies Apple, Alphabet/Google, Microsoft, and Amazon.

The success of startups as disruptors led to the creation of the term "decacorn". Initially, the term "unicorn" was conceived to describe privately-held businesses which receive a valuation of 1\$ billion or more. Whereas 82 of these companies existed in 2015, there are now more than 275 of these companies listed (according to CrunchBase⁶). This rise in high valued companies led to the creation of the new term "decacorn" to label private companies with a valuation above 10\$ billion, enabling them to surpass the threshold for making the S&P 500. Examples come from many industries with Uber acting in transportation, Space-X in aerospace or Xiaomi in consumer hardware. These companies are characterized by being recently founded, displaying extraordinary growth and innovativeness and threaten the position of incumbent companies in many different markets, potentially disrupting established industries.

2.4.2 The Lean Startup

In the wake of these success stories, interest in entrepreneurship and starting up new businesses has soared. Similar to corporate ventures, also most startups do not live up to their potential and expectations (4). To combat this, and to give entrepreneurs feasible tools to work with, many methods were created both from practitioners as well as academics⁷. Notable methods are the Business Model Canvas (58), Customer Development (59), Agile Project Management (60) as well as Lean Thinking (61)(62).

In 2011, Eric Ries, an entrepreneur from Silicon Valley, released his methodology for starting up companies in the form of a book titled "The Lean Startup" (4). His methodology combines ideas from lean manufacturing (63) and agile software development (64) and focuses on validated learning to mitigate the uncertainty around creating new businesses. As Ries writes himself in his book (4), he sees the task of the entrepreneur to conduct experiments following the scientific method to verify the assumptions underlying the venture.

For Ries, a startup is defined as the following:

"a human institution designed to create new products and services under conditions of extreme uncertainty" (4) [p. 8]

Ries sets up five principles to centre his method on. These are (4) [p. 8-9]:

- Entrepreneurs are everywhere
- Entrepreneurship is management
- Validated learning
- Build-measure-learn
- Innovation accounting

The meaning of each headline (4) is explained in the following.

⁶ https://techcrunch.com/unicorn-leaderboard/, Retrieved on 05.04.2018

⁷ https://www.youtube.com/watch?v=AX0EnxpkZ6I&t=1352s, Retrieved on 05.04.2018

The first principle states that everybody can be an entrepreneur as long as he or she works in the context of a startup as defined before. The definition is not bound to owning a business, and entrepreneurs can exist in all possible contexts, so also within corporates. It also means that an entrepreneur is not required to work on a venture continuously.

The second principle states that even in the face of high uncertainty, managerial tools should be employed to guide the way, in contrast to the assumption that an attractive invention will enable growth. Entrepreneurship is not just about building new products, but also about managing and developing a business.

The third principle states that starting a new venture is about exploration, as opposed to exploitation. Through running continuous experiments, the entrepreneur attempts to evaluate his assumptions and receive direct feedback from customers themselves to understand and learn more about the market reality. This continuous learning through customer validation is called validated learning.

The fourth principle introduces the so-called "build-measure-learn"-loop. This approach is the tool to reach the validated learning described in the previous paragraph. The entrepreneur starts by designing a minimum-viable-product (MVPs). An MVP is an initial prototype, built with the least effort but still suitable to test the assumptions underlying the venture. Once the MVP is built, it is presented to customers to collect feedback about whether they are interested in it. This feedback is then used to analyzed and compared to the initial assumptions to learn and guide the next steps. A possible outcome of this learning, if it shows that some hypotheses need to be adapted, could be the pursuit of a new direction and strategy. This change in strategy is called "pivoting" and aims at protecting startups from producing unwanted or unsuccessful products or services.



Figure 11 - Visualization of the build-measure-learn loop

The fifth and last principle introduces the concept of "innovation accounting" (IA). IA is about applying metrics which are accessible, actionable and auditable (65). The definitions of these three characteristics are as follows:

• Accessible:

Accessible means that the metrics which are used to verify one's assumption should be retrievable and readable with relative ease.

• Actionable:

Actionable means, that metrics possess a plausible causality towards what they are supposed to measure and can be used to adapt one's strategy.

• Auditable:

Auditable means that values can be audited at a later point in time so that sceptics can go and verify the insights won through previous reports.

Ries explicitly warns of so-called vanity metrics (65), which do not fulfill these three criteria. The following graphic and subsequent explanation attempt to illustrate this problem:



Figure 12 - Characteristics of reliable metrics

1. Auditable & Accessible & Not Actionable:

The metrics can be gathered accurately, easily and with the possibility for revision at a later point in time. However, since they are not causally related to the venture success, they are not suited to take strategic decisions.

2. Auditable & Not Accessible & Actionable:

The metrics are causally related to the venture success and are therefore suitable for taking strategic decisions. Further, they possess the possibility to be revised at a later point in time. Since they are not accessible, they are not available promptly.

3. Not Auditable & Accessible & Actionable:

The metrics are causally related to the venture success and are therefore suitable for taking strategic decisions. Further, they can be gathered accurately, and easily. Since they are not auditable, there is a risk that actions cannot be verified ex-post.

4. Auditable & Accessible & Actionable:

The metrics are causally related to the venture success and are therefore suitable for taking strategic decisions. Further, they possess the possibility for a revision at a later point in time. Additionally, they can be gathered accurately, and easily. Metrics who fulfil these three criteria are reliable metrics.

This perception aligns with previous research by Vandevelde, who warns of a too monolithic approach to project performance mainly focused on economic values as these give less insight into product development processes (9). The time lag before financial and commercial indicators show the results of any action makes them useless for proactive and anticipatory working. Because of this, Ries drops the initial creation and subsequent rigor following of an extensive business plan. One of the reasons for the high failure rate of new ventures is this "fallacy of the perfect business plan" (66). The predictability in the economic and business world is limited (67), and studies have shown that a business plan in itself does not improve the success chances of a startup (68).

2.4.3 Innovation through Effectuation

To summarize, Ries and his methodology pursue innovation through repeated, validated experimentation, which can be seen as an implementation of an effectuation approach. The methodology builds on the insights introduced in 2.2.5 and 2.2.6. The usage of effectuation is based on the acknowledgement of the significant uncertainty surrounding the search for a new business model or innovation. The method rejects pure planning and execution in favour of a more combined approach of managing, searching and learning, which is beneficial for entrepreneurs (32).

As Kerr et al. (69)[p. 25] put it, "Entrepreneurship is fundamentally about experimentation because the knowledge required to be successful cannot be known in advance or deduced from some set of first principles". This insight is at heart to the methodology. The build-measure-loop surrounding the creation of MVPs has strong parallels with the scientific method. The underlying mantra is that accurate bad news are preferable over inaccurate good news. Only then it is possible to make the exploration of the uncertain financeable and feasible. Ideas that miss the needs of the customer should fail early and inexpensively (21).

2.5 Internal Lean Ventures

This section introduces the second unit of analysis, the internal lean venture. To do so, it combines the insights of internal venturing, from Section 2.3.2, and the lean startup methodology, from Section 2.4. It goes on to introduce the dimensions, which will be employed to analyze the decision framework. These dimensions are the stakeholder taking decisions as well as the life cycle phases in which decisions are taken.

2.5.1 The Lean Startup within Corporates

An internal lean venture is first and foremost "just another" internal venture. This means that it is a venture operated by employees of the parent company. While the ties between parent and venture can be quite loose, the venture is still formally part of the parent organization and does not operate as its own entity. The name giving characteristic, which makes an internal venture an internal lean venture, is that it follows the lean startup methodology as described in this chapter. The methodology is defined through the application of an effectuation-based logic, which employs build-measure-learn loops to conduct validated learning. The loop goes hand in hand with short development cycles and a focus on MVPs. Projects, which officially only carry the title "agile", but also focus on customer validation as well as innovative project outcomes also pass this definition.

As the lean startup methodology started to gain traction, it appealed to a broad audience and created a huge following. This popularity brought Eric Ries on the agenda of many business leaders and in turn, led to his cooperation with General Electric (GE). Ries applied his ideas and knowledge to the internal management of new projects within the company and helped to achieve good results (22).

Internal lean ventures are directed towards innovation. The lean startup methodology is especially useful, for projects which possess a high degree of uncertainty. While also incremental innovation might be handled through lean ventures, if they possess a high degree of certainty (starting from 75% accuracy, 2.2.5) it is advisable to evaluate whether an execution centered approach might not be better suited.

2.5.2 Project Stakeholders

When looking at the stakeholder surrounding an internal venture, it is important to differentiate between two kinds of roles, to avoid confusion about this term. On the one hand, it is possible to speak of informal roles, so to speak of an implicit role somebody takes in relationship to something. These roles describe a specific set of behaviours and activities which does not find any formal recognition. Examples for this kind of roles are champions, sponsors or gatekeeper surrounding innovation projects (70). On the other hand, there are formal roles which exist formally within the context of the corporate structure. They are used for selection, performance and incentive systems.

This work adopts a hybrid notion of the concept of roles. Companies may differ in naming their managerial titles, and it is not within the scope of this work to conduct an in-depth review of naming conventions within different organizations. Therefore, this research adopts a notion of formal role categories, like for example project controlling, which might be fulfilled by multiple people or used with different titles depending on the company. It is important to note that not all stakeholders are included within this stakeholder analysis as only decision-makers within the corporate process are relevant for the research questions. Four relevant categories of stakeholder were found (71):

• Leadership:

The leading managers of the company mainly responsible for setting the strategic direction and defining the resulting operational goals

• Other (functional) Manager:

Junior, middle and senior management that may be responsible for planning, leading and controlling other parts of the company

• Portfolio Manager:

These are functional manager which are responsible for supervising all innovation activities within the company

Project Manager: •

The functional manager directly responsible for conducting a project and leading the cross-functional team

An exemplary organigram can be seen below:



Figure 13 - Exemplary organigram for a generic innovation function

While this organigram might vary in reality, this is irrelevant for this research because of two reasons. First, the decisions that must be taken will stay the same, and a different distribution of decisions over management roles will not change that significantly. Second, abstractly speaking there will always be management focused on the operation of the project (project manager), management focused on communicating and mediating between project and enterprise (portfolio manager), and managers solely acting out of the perspective of the large enterprise (leadership, controlling, other managers).



Figure 14 - Stakeholder categories within this research

The leadership forms the first category of relevant stakeholders. Since it is responsible for setting the strategic orientation of the company, it has a considerable impact on the progression of the internal lean venture. After this comes the portfolio manager or innovation manager, responsible for handling a portfolio of projects and constituting the interface between leadership, other functional departments and the individual projects. Then follows the project manager, who is directly responsible for managing the individual venture, as well as being the interface between the venture team and portfolio management. Finally, there are other parts of the company that participate more or less active in the venturing process. Especially the finance and controlling department can be seen as relevant since they decide over budget questions and controls the performance of the venture. All these relevant other departments are summarized in the fourth category of controlling. The last category includes departments which have no active determination power over the venture.

2.5.3 Project Life Cycle

Classically, a startup is portrayed as having four distinct phases (72), each with their own challenges. The phases are visualized in Figure 15.



Figure 15 - Visualization of the four phases of startups (adapted from (72))

The initial challenge of "starting up" the venture is about defining and validating the business concept. Starting up includes evaluating the spotted market opportunity and refining the product or service including its value proposition; its business model and launch strategy. The focus in this phase is quite narrow while keeping the commitment of time and resources minimal. This phase represents the most informal and loosely structured phase and mainly serves the customer discovery.

After the initial customer validation was successful, and a fair amount of market traction is created, the period of "transitioning" begins. The challenge here is to position the company for the rapid scaling and fill the gaps still existing within the business concept. During this phase, the complexity of the venture starts to increase, and more resources become necessary. The entrepreneur tries to find problem/solution fit, by rapidly developing MVPs and reacting to received feedback.

Once a stable foundation is established, the quest for growth begins. The phase begins in which the entrepreneur will focus on rapidly "scaling up" the company. Significant resources need to be leveraged so that a competitive scale and sustainable market leadership can be reached. To reach this position the entrepreneur must find the problem/market fit. During the scaling process, the need for a more formal organizational structure arises, which forces the enterprise to hire specialists for tasks formerly done by generalists.

At some point, both the investors as well as the founders will generally want to harvest the value accumulated in the venture. To do so, a successful "exit" is necessary which often happens through a private sale or an initial public offer. At this point, the startup has itself become an enterprise.

Especially during the "transition"-phase it is possible for a startup to profit from the guidance of a parent company, given the venturing process is adequately designed. Picken (72) speaks of eight hurdles, which startups generally face in this phase, out of which at least half of them can receive support through the large enterprise. While startups transition towards the growth phase, they develop the need to build an organization and management team, as well as effective processes and infrastructure. The parent company already has employees who possess the required knowledge and experience and can support the startup with this. Additionally, the startup can rely on the parent company offering support in managing the risk as well as setting and maintaining the focus. Finally, should the ventures experience vast amounts of growth in a short period of time, the parent company can provide know-how and help the venture master these challenges. Despite these advantages, the fact remains that empirical research attests to corporate ventures a high failure rate (49).

2.6 Measuring Innovation Progress

This section evaluates the progress measurement of innovation projects by introducing contemporary research on relevant metrics. A set of indicator categories will be introduced to serve as orientation when analyzing the completeness of employed indicators within the case. Then, reliability requirements will be presented to serve the analysis of used indicators. This section, therefore, establishes the evaluation criteria to judge the quality of the integration through the decision framework.

2.6.1 Innovation metrics

Traditionally, project performance is separated in operational and product performance (8). Operational performance includes items related to project execution, like adherence to schedule and budget or quality targets. Product performance, on the other hand, reflects the

success of the project outcome. Related indicators include, for example, the adherence to profit or market share goals.

One problem that companies face when adopting the lean startup methodology for internal ventures is that these traditionally employed metrics are not fit for accurately assessing the anticipated benefits of an internal lean venture, due to the uncertainty that surrounds the venture. In these situations, where the objective measures fail, actors start making decisions based on perceived performance, rather than actual performance. This judgment based on perceived, in contrast to actual performance, leads to decisions suffering from random error and informant bias (8).

Examples for sub-optimal metrics are net present value, internal rate of return or discounted payback periods. While these metrics have proven their worth in existing markets and with running products or predictable ventures, they do not fit the spirit of lean innovation. For many of these projects, all traditional metrics typically used in an established company (revenue, customers, ROI, market share) may effectively be zero without any meaningful indication about the actual success prospects. Relying on this kind of vanity metrics does neither allow the effective control of ventures nor the differentiation between the next Facebook and the next barrel burst. Recent research focused on the specific needs with regards to conducting ventures and the associated activity of business modelling (the business model of the new venture) to mitigate this issue.

2.6.2 Indicator Categories

Recent research suggests that for the development of successful business models a set of metrics is required, which delivers a holistic picture of the venture reality. The following categories were found to be relevant and should be featured when designing a set of suitable metrics to steer and evaluate a venture (7):

• Customer

Metrics in this category look at the targeted customer segment, the value creation for them, as well as the relationship towards that customer. The focus of this kind of metrics is to measure the need-fulfilment as well as the engagement of the relevant customers. Examples: Market share/coverage, website usage, advertisement traction

• Service

These metrics measure the quality and development of the respective service of a company. Examples: Service quality, customer satisfaction, response time, sustainability

• Technical

These metrics measure the actual performance of utilized technologies and technology products. This often means the ICT performance responsible for potential knowledge storage, a communication application, data-processing applications. Example: Complexity of architecture, the complexity of database, interoperability requirements, Up-time requirements

• Organizational

These metrics focus on the availability of human and organizational capabilities and resources, which are required to make the business work. These can refer to external as well as internal assets. Example: Complexity of internal partners, the complexity of external partners, access to partners, characteristics of the network

• Financial

These metrics focus on the financial analysis of the venture. This means the profitability and revenue, but also costs and pricing schemes, as well as risk. Example: Value of the venture, profitability, return on Investment, cost, risks

• Value Exchange

These metrics only apply to networked business models and are especially also relevant for internal venturing as the venture starts out as being part of a network given by the parent company. The focus is here to analyze the impact of the value proposition on involved actors. Example: Size of the partner network, contracts, importance, value conflicts

• Information Exchange

These metrics measure the ease with which information flow between relevant actors, and whether the right information is available at the right time. Example: Flow and volume of data and information between actors, information accessibility, knowledge development

• Process Alignment

These metrics measure the alignment of processes seen from an operational point of view. Processes act as enablers of action, but can also hinder the progress if misaligned between different actors. Example: Number of processes, throughput, variety

2.6.3 Designing reliable metrics

The following guidelines are relevant when creating reliable metrics for business metrics (7):

- Measures need to be aligned with the strategic objectives. This is the case because business models are meant to achieve a strategy.
- Metrics should possess a plausible causality in relation to strategy, business model and implementation. If there is no observable causality, actions based on this metrics will not achieve the anticipated effect.
- The right baseline for metric values needs to be established. Only if a realistic goal setting is applied, then it is possible for metrics to provide useful information.
- Once the correct measures are chosen, it is essential also to measure correctly.

Only then is it possible for metrics to fulfill their function (7):

- Helping to identify core hindrances and opportunities
- Understanding and creating an understanding of causality and dynamics with regard to the effect of an action
- Providing a decision basis for finding corrective actions during the implementation of a business model

2.7 The interplay of lean venture and large enterprise

Chapter 2 constitutes the theoretical foundation on which this research is based. It paved the way for the analysis of how the large enterprise should employ internal lean ventures. The figure below shows how the sections relate to the respective research components introduced at the beginning of this chapter:



As Section 2.2 introduced, innovation is a volatile, path- and context-dependent phenomenon, which does not follow a strict and linear process. Each innovation lies on a spectrum from certain to uncertain and is defined by how much existing knowledge, with regards to market and technology, can be applied. An innovation, which utilizes significant amounts of existing market knowledge or employs only an incrementally improved technology, possesses more certainty with regards to the implementation than another, which focuses on new markets or uses radically improved technology.

While innovation with certain features can be handled through a planning approach and highly standardized processes, innovation with uncertain features fares better when utilizing a searching and learning approach. The reason for this is that the searching and learning approach helps to discover the actual characteristics with regards to market and technology knowledge and, so to say, pushes the innovation down the uncertainty spectrum towards a higher certainty. Commitment and significant investments are being deferred until the venture team has learned and validated enough and feels confident in the rightfulness of their assumptions.

The entrepreneur should, therefore, employ a continuous experimentation approach, and stepwise verify his assumptions, or in case of being proven wrong pivot his strategy and correct his assumptions. This approach is called effectuation, and the goal of following this approach is to find a tested and therefore validated innovation.

Large enterprises, which excel at exploiting their core businesses, are often faced with difficulties when targeting innovation within their existing organizational structure. One way to mitigate this challenge is to implement an internal venturing unit, which starts innovation

ventures and enjoys a higher degree of autonomy and independence than departments and teams focused on the core businesses.

The controlling and steering of these new units is often accompanied by challenges, because companies lack knowledge and understanding about newly applied methodologies, and possibly do not reconfigure parts of their organizational configuration, like KPIs and decision processes, to account for the change in methodology. One of these new methodologies is the lean startup methodology introduced by Eric Ries (4). The methodology applies an effectual approach through iterative processes and validated learning, and aims at discovering its market context and adapt to the reality rather than following a strict plan. While this has proven successful for independent startups, internal ventures struggle in applying the methodology.

When analyzing the venturing process, because of the high degree of autonomy the ventures usually enjoy, the author argues, that the relevant element when analyzing the control of internal venturing processes is the decision framework used to steer the ventures. Since the operational steering is mostly left to the project lead and his or her team, this research assumes that the most significant influence that the parent company exerts is through deciding the continuation or termination of any given venture.



Figure 17 - Conceptual Model

This insight means that, on the one hand, the decision process in itself plays a prominent role, and, on the other hand, the information which constitutes the basis for any given decision. Only if the presented information enables a) the decision maker to develop an accurate understanding of the situation the venture is in and b) possess a plausible causality to change this position, then the decision maker will be able to take a sound decision which achieves the desired effect.

This research focuses on precisely these points, discovering and identifying the decision framework which the large enterprise employs, consisting of decisions taken by different stakeholder throughout the life cycle of a venture. By analyzing the employed metrics and evaluating their reliability, it is assumed to develop an understanding of the status quo. This

analysis will then be used to suggest adjustments and improvements to the decision process, drawing on related research.



Figure 18 - Decision Framework Skeleton

The in Figure 18 depicted skeleton serves as a foundation for analyzing the decision framework as stated before. By filing the individual cells with the decisions, the analysis of the decision integration of both large enterprise and internal lean venture is attempted. The codification allows an accurate representation of the decision framework and therefore a structured analysis of both decisions as well as underlying information.

Innovation is a necessity in today's business environment for companies to keep their strategic advantage and secure their long-term survival in the market (1). Nevertheless, it is not easy for companies to steer their exploration-oriented departments within their existing organizational structure (5). This struggle leads to significant investments being made, and resources being committed, without any considerable successes (6).

While this is, of course, suboptimal for each innovating company, it also has an impact on the broader economy and the well-being of society. Ventures which are failing, not because of their content but because of the environment in which they are born, are a big waste of potential. The potential to make processes more efficient, products and services more affordable, and raise the overall economic power of humanity. Moreover, while economic theory teaches us that the process of growth is one of creative destruction and fluidity (73), every contribution to improve the overall success of venturing attempts will allow more productive use of time and resources, without hampering the competition needed to push forward the boundaries of the status quo. So to say, it allows a higher level of competition, enabling the majority of companies to innovate on a higher level.

This research wants to help to improve the focus on competition and enable companies to make more efficient use of their resources. This improvement is attempted by giving large enterprises support in controlling and steering their internal venturing process and advising on how they can leverage the theorized benefits and strengths of internal venturing in contrast to independent venturing.

3 Methodology

This chapter contains the five main components of this qualitative and explorative research. First, the research design (3.1) will be introduced. Then, the case selection (3.2) will be explained, and the main case will be described (3.2.1). Further, the data collection and analysis (3.3) will be introduced. Following this, the theoretical foundation of the interviews will be summarized (3.4), and the approach to transcription and codification will be explained (3.5). The chapter concludes with some considerations regarding the reliability and generalizability (3.6) of the results.

3.1 Research Design

At its core, this study is of a qualitative nature and pursues an explorative goal. Maxwell (74) writes about qualitative research design that, while it does not possess clearly defined instruments, hypotheses or a set of analytical procedures, which ought to be followed, it is made up of five broader components. These components are necessary to determine the context of the study and guide the researcher. They are as follows:

- **Goals:** A clearly defined goal, which aims at contributing to the scientific body and closing a currently existing knowledge gap.
- **Conceptual Framework:** The body of background information and literature, which make up the theoretical foundation, on which the research will be standing.
- **Research Questions**: A clearly defined scope and catalogue of questions, which are in line with the goal to be reached.
- **Methods:** An overview of the things done by the researcher, related to data collection and analysis.
- Validity: A strategy to validate and review conclusions drawn upon from the data collected. Only through validation and careful consideration can the results be taken seriously by the peers.

Component one and three were introduced in Chapter 1 through the introduction as well as the definition of the scope. Component two is equal to Chapter 2, which consists of the literature review, and represents the theoretical footing of the conceptual model. Component four and five will be explained in this chapter.

The pitfall of qualitative research is that there is no "cookbook" to determine the methods to be used (74). Qualitative research is context-dependent, and the quality of it cannot be guaranteed by a rigour list of methodological rules that need to be followed. Nevertheless, this does not mean that there is no kind of structure underlying a qualitative study, just the structure is designed specifically for the research and hand with the goal of the study in mind.

While following an established approach undoublty aids the researchers in improving the comparability of data across sources, designing an unique approach fit to the research problem at hand allows a more in-depth focus on a particular phenomenon. This purposeful design allows an improved internal validity and contextual understanding, which is vital for initial theory forming in explorative studies. This research, therefore, focuses on finding a suitable and

fitted research approach to enable the generation of new hypothesis while employing preventive strategies to mitigate issues concerning reproducibility and generalizability.

Further, this research employs the case study methodology as described by Yin (75). Case studies are appropriate when dealing with real-life activities, which are supposed to be analyzed in-depth (76). They focus on a particular issue within a broader setting and allows to collect evidence from multiple sources. Through this, they aid the investigation of complex phenomena while retaining a holistic perspective and aligning with characteristics found in real-life.

Semi-structured interviews will be used as the primary data gathering instrument, as they allow an in-depth understanding of a case (76). The aim is to gather robust evidence and develop a strong base for subsequent theory building. By gathering insights through multiple interviews, this research tries to clarify whether an emergent finding finds support by multiple interviewees or whether it is a particular issue experienced only in a single instance. This gathering from multiple sources will enable the study to reach a better grounding, making it more accurate and generalizable, and help discriminate between different constructs and their relationships (77).

3.2 Case and Interviewee Selection

The selection of a case is an essential aspect of every case study, as the choice determines many contextual aspects leading up to following findings. Only through a conscious selection, it is possible to reduce extraneous variation and clarify the respective units of analysis (77).

Since this study is being conducted in the context of a master thesis, it is important to bear in mind that there is a strict time frame and resource pool, which ought to be used wisely. As Patton (78) writes, in situations of limited resources the technique of purposeful sampling can help identify and select information-rich cases. This sampling happens by identifying and selecting individuals who are exceptionally knowledgeable and experienced in the phenomena of interest (79), which are also available and willing to participate and communicate their experiences and opinions. That the author of this thesis conducted the research during an internship within a company helped to acquire this exclusive access to relevant stakeholders.

The company that serves as a case within this research is KPMG (KPMG N.V.), which classifies as a large enterprise in accordance with the definition of Section 2.3. The Dutch member firm within the Netherlands employees around 3000 employees and generates a revenue of more than €500.000.000 according to the Dutch chamber of commerce. Additionally, to being a large enterprise, KPMG possesses a rigour and established process landscape and engages in the implementation of agile and lean projects which it needs to embed in the organizational structure.

To triangulate the results and verify that the findings are generalizable outside of KPMG the author conducted additional interviews with stakeholder of two banks. While KPMG, as a professional service company, does not share the same business model as a bank, both industries often collaborate and possess similar features. They both are highly regulated and therefore characterized by high requirements concerning risk, security and regulatory adherence.

The reason that no other professional service company was interviewed is because of difficulties to acquire interested interviewees. The intense competition between KPMG and its three big direct competitors made it difficult to convince them to cooperate with a KPMG intern. Further, since the analysis of the venturing process required interviews with senior management staff, the author had to choose based on availability. The other two cases were well suited since the author of this thesis was lucky enough to attain access to the stakeholders within each company, and because the scheduling fitted within the available time frame.

Within the companies the interviewees were selected based on the following criteria:

- 1. The interviewee had to be employed in a function equivalent to one of the stakeholder roles identified in Section 2.5.2.
- 2. The interviewee engaged in his function in venturing projects aimed at innovation.

Through the selection of interviewees with these characteristics, this study aims to ensure alignment with the theoretical constructs as described in Chapter 2.

The following number of interviews were conducted within KPMG:

Role	Number of interviews
Project Manager	3
Portfolio Manager	6
Controlling	3
Leadership	4

Table 4 - Number of interviews for the main case

The following number of interviews were conducted within the two other companies to validate the results of KPMG:

Company	Number of interviews
Bank A (Netherlands)	2 (Project Manager, Portfolio Manager)
Bank B (Germany)	4 (one of each role)

Table 5 - Number of additional interviews for validating the results

3.2.1 Case Description

KPMG is a multinational professional service network, with independent member firms in 155 countries. Worldwide, more than 160.000 people work for the company. As one of the so-called big four audition companies, KPMG focuses mainly on financial audit, tax, and advisory business. More information can be found on the company's website⁸.

⁸ https://home.kpmg.com/nl/nl/home/over-ons/onze-organisatie.html, retrieved on 10.07.2018

Work in a professional service firm displays a high focus of specialization and rigidity. UK's consumer and competition authority describes the jobs of professional service companies as "occupations requiring special training in the arts or sciences and include the services of lawyers, accountants, architects, engineers, doctors and dentists."⁹. Their work must be done in high-risk environments and requires extensive work in a structured manner. Often, work has a sense of urgency and needs to be performed flawlessly on the first attempt, since a failure can have a substantial negative impact. All these occupations go hand in hand with extensive education, public scrutiny and high regulations as well as formal requirements to account for this risk. Most of those jobs require the acquisition of state certificates and titles. Misdemeanours and failed projects have a much higher impact on the broader society than it might be the case with other industries. Additionally, a company and individual cannot afford to jeopardize his or her reputation, since there is a direct relationship between a good reputation and somebodies hire-ability.

Another typical feature is the organizational structure of partnerships, which is quite common in the professional service industry. Many (more or less) equally powerful individuals constitute the leadership, with c-level management being selected out of the ranks of the partners. Decisions are often taken in committees by the partners. Failure or misdemeanors do not only impact the individual or the unit responsible but, depending on the impact on society, exposes the whole firm to negative consequences. While the official organigram of a partnership often shows a comparably (to mechanistic companies) flat hierarchy, the reputation and respectbased work has, nevertheless, created an environment of informal hierarchy. This hierarchy, paired with the fact that much work follows strict rules and standards, has given rise to a traditional environment. This environment can be seen later during the presentation of the results in Chapter 4, especially in the results related to mindset and culture in Section 4.3.1.

Like other companies, as described in Chapter 2, KPMG feels the need to change and reposition itself to keep its strategic advantage in the midst of new technologies, new work style and digitalization. Therefore, the company launched a strategic initiative, which plans to innovate and digitalize the business by 2025. This iniative includes both changing the organizational configuration of the company as well as digitizing the company's offering. This plan also implies that a big pool of resources, both financial and human, is now focused on implementing this initiative, and there is an urgency to spend these resources wisely. Currently, the company is in the middle of this transformation process, with the innovation department, focused on internal venturing, being founded only recently. Multiple departments and functions are in different levels of progression towards the goal, and the company is still looking for an optimal configuration.

What makes this case significant is that KPMG, as one of the four biggest professional service networks in the world, is a leader in its industry and a well-known company across the borders of its industry. According to the World Economic Forum and Accenture, the professional service

⁹ http://webarchive.nationalarchives.gov.uk/20140402171358/http://www.oft.gov.uk/OFTwork/financial-and-professional/professional-services/, retrieved on 20.06.2018

industry is potentially still to be disrupted by the new technologies and may be approaching a tipping point soon¹⁰. One of the key themes that they list is digital agility, which they define as anticipating change and reacting faster than competitors. This judgement shows that the urgency for KPMG to adapt is high, while the path of progression, due to the uncertain nature of innovation, is not clear.

Doing a case study at this point in time, in the context of an internship, allows a unique insight into one of the leading companies within its field in one of the most innovative countries in the world (according to the global innovation index report 2017ⁿ). The author was able to get access to essential stakeholders within the company, which might not have been the case if the motivation to assess the status quo had not come from within the company itself. This access allows unique insights into the transformation process of an industry at the brink of change.

3.3 Data Collection & Analysis

The primary method to collect data in this research is through semi-structured expert interviews. In contrast to structured interviews, which revolve around a predetermined list of questions, semi-structured interviews are open-ended and free to vary between participants (80). They are especially useful to explore more complicated research questions and enable the researcher to develop a much deeper understanding of the domain. All respondents were selected based on their expertise, which allowed them to serve as informants on the topics relevant to this thesis (81). The open-end character of the interview allows to collect data, which is of a more in-depth character and allows to explore and confirm the theoretical assumptions based on the literature review (82).

In total 16 in-depth interviews within KPMG were conducted. For triangulation and verification purpose, eight additional interviews were conducted with external companies, as described in 3.3. These eight additional interviews were conducted with one interviewee per role category per company. Each interview lasted approximately 30-60 minutes and revolved around the theoretical concepts identified in Chapter 2. Before the actual interview, time and place were scheduled as well as an introductory text was sent, to allow the respondents to develop a rough expectation towards which topics are going to be covered. The actual interview structure can be found in Section 3.4.

All interviews were recorded and afterwards transcribed for the final analysis. The language of the interview varies depending on the respondent. Most of the interviews were conducted in the Netherlands, with English being the spoken language despite most interviewees being Dutch native speakers. Four of the secondary interviews were conducted in cooperation with a bank from Germany. These interviews were conducted in German, as it is the native language of the author and fitted the setting. Irrelevant data, which does not contribute to answering the research question, like off-topic information, repetitions or personal details, were left out of the

¹⁰ https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/WEF/PDF/Accenture-Professional-Services-Industry.pdf, retrieved on 10.07.2018

¹¹ https://www.globalinnovationindex.org/gii-2017-report, retrieved on 10.07.2018

transcripts. The transcriptions for the additional interviews, used to validate the results won from the main case, were kept short since they mainly served to validate findings and not to generate extensive new insights.

3.4 Interview Structure

The interviews were pre-structured to ensure comparable results. Each interview started with a short introduction by the interviewer to present the research objective and question to the interviewee. This introduction was done to receive conscious and rational insights from the respondents and guarantee that both, interviewer and interviewee, established a shared understanding of the topic. Then followed the questioning of the interviewee, which focused on three topics presented below.

The first topic, on which each interview focused, was exploring the perspective of the interviewee on the venturing process. Exploring the perspective included identifying the goal of the person in his relationship to the venture, and whether he holds any positive (or negative) biases towards the lean project methodology. Identifying biases was done to be able to put statements expressed during the interview into perspective and distinguish, for example, between justified excitement about the methodology because it creates real added value from fandom and excitement about novelty in general. Of course, also the opposite case should be avoided, and constructive critique needs to be separated from general reluctance towards change or novel management approaches.

The second topic focused on the activities of the interviewee in the context of the venture. This means exploring the (formal) decisions that he must take, how he usually does so and which information he consults as a basis for his choice. The skeleton of the decision matrix, as elaborated in Section 2.7, served as a structuring device. This part of the interview brings together the considerations induced during the theoretical review with the knowledge possessed by the interviewed experts to generate the relevant data to analyze the venturing process.

Finally, the interviewees were asked to provide insights on which factors he thinks influence the venturing process besides the formal process and decision framework. This questioning was done to account for information which a rigorous and structured approach solely focused on the formal process would not have covered.

Subsequent follows a list of questions that the author aimed to be answered during the interviews, either directly or indirectly. They were used to structure and relate different interviews:

• Perspective:

Evaluating the interviewees perspective.

- \circ $\;$ What is the interviewee's function in relation to the internal lean venture?
- What goal does he pursue?
- What is his view towards lean projects methodology?

• Decisions:

Collecting the relevant data as evaluated by the literature review.

- Which decisions has he to take?
- When do these decisions have to be taken?
- What is the underlying motivation to take these decisions?
- On which information are these decisions based?
- What decisions does he think are problematic?

• Contextual Factors:

Exploring factors mediating the venturing success.

- What challenges does the interviewee see in fulfilling his function/role?
- What challenges does the interviewee see for the success of the venturing process?
- What suggestions does he have to improve the status quo?

While this structure served as a general guideline for each interview, additional and improvised questions were allowed and encouraged to serve for additional insights. The rationale behind this is that questions should not be judged by whether they logically derive from the research questions, but whether they allow the collection of data which allows answering these questions (74).

3.5 Transcripts & Coding Analysis

In preparation to analyze the interviews using codification, the audio recordings were transcribed. For the interviews, which were done with stakeholders of the main case, an extensive and complete transcription was produced and used for the codification. The actual codification was then done with the support of a program called NVivo 12 Pro (Version 12.0.0) developed by the company QRS international. The software is generally accepted by the academic community and can be examined on their website¹². The software allows associating interview snippets with so-called coding nodes. This associating is done to group relevant parts of separate interviews and win an understanding for common patterns and generally applicable themes. Due to confidentiality issues, the transcripts cannot freely be shared in the appendix. Requests to view them have to be addressed to the author of this work.

Following the transcription came the analysis and coding of the interviews, to allow the identification of relevant passages and enable a structured understanding of the content. The coding was done in analogy to the interview structure described in Section 3.4. The first step was to identify statements about the perspective of the interviewee. The second step was to identify statements about the actual decisions as well as the metrics or information based on which they are taken. The last step was to scan the transcripts for statements about other factors influencing the venture success in its current implementation.

Subsequently, the statements were evaluated and consolidated:

¹² https://www.qsrinternational.com/, retrieved on 15.05.2018

Based on the first part, a profile of each interviewee was generated, which includes his role association, his level of familiarity of the lean startup methodology as well as his sentiment towards the lean project methodology. The classification was purposely kept simple and states either "positive view", "neutral view", "negative view". The results of this analysis can be found in Section 4.1.

Based on the second part, the venturing process and the decision framework were identified. The decision framework skeleton, as introduced in Figure 17, was used to generate an abstraction of the venturing process. This abstraction included all decisions as well as the information which are regulalry used when taking them. The main goal of this part of the analysis was to generate an understating of the "as is" venturing process. The results of this analysis can be found in Section 4.2.

Based on the third part, potential contextual factors, influencing the venturing success, were identified and further discretized. The identification was done using a second round of codification, with factors being split into three distinct themes to consistently group comparable experiences and sort the factors for post processing. The goal was to develop a holistic understanding of how the specific characteristics of the company influence the venturing outcome. The results of this analysis can be found in Section 4.3.

After this analysis of the interviews of the main case, the coding tree was used as a foundation for the coding of the transcripts of the validation cases. They were structured and consolidated to make them comparable to the main case and suitable for the final validation. The results of this analysis can be found in Section 4.4.

The consolidated and structured results were then analyzed and validated. The conceptual analysis can be found in Chapter 5. It includes the analysis of the decision process (Section 5.1), by verifying whether the underlying information fulfills the reliability requirements introduced in Section 2.6. Further, it contains the analysis of the contextual factors (Section 5.2) using academic validation and finally the comparison and validation through the validation cases (Section 5.3). Ultimately, based on this analysis, the author developed some managerial recommendations (Section 5.4) which companies can use if they face challenges in designing their venturing process for internal lean ventures.

3.6 Validation & Generalizability

The research follows the strategies outlined by Maxwell (74), Eisenhardt (77) and Noor (76) to ensure that the quality of this study conforms to common standards. The conceptual framework, presented in Figure 17, was developed before the interviews and served as a basis for the semi-structured interview. Special attention was paid to reach a plausible and causal relationship between the different parts of the conceptual model and the results of this study and ensure internal validity. To make sure that the constructs are valid the research aimed to provide a high-quality conceptualization of relevant concepts and followed the strategies outlined by Gibbert et al. (83).

Furthermore, three methods were employed to improve the validity and generalizability of the research further:

Firstly, each interviewee was asked to provide feedback about the data and conclusions that were drawn on the basis of each particular interview. Through this feedback loop, the possibility of misinterpreting the meaning of statements was lowered and the risk of distorting the results mitigated. It also allows to identify the biases of the researcher himself and help to reach objectivity, necessary to draw the right conclusions. This method is called a member check or respondent validation (84).

Secondly, by collecting information from various sources and settings, the identification of common themes was targeted. By interviewing different experts with different background and roles, as well as reviewing various forms of data, e.g. academic, articles, and business books, it was attempted to ensure relevant results. Answers giving during the interview were matched with available academic literature and documents out of practice.

Third, to validate the findings, found in the main case, additional interviews with two similar companies were conducted. This additional validation means that for each role category two additional interviewees were asked about their respective experiences to verify that the findings are stemming from the main case show generalizability.

Finally, the generalizability of this study stems from its grounding in a sound conceptual model and a preselection of suitable samples. On the basis of this, it is possible to develop further theory, which sheds light on the dynamics underlying the relationship between large enterprises and their internal lean ventures.

4 Results

This chapter contains the results won through the codification of the interviews.

This chapter contains the results of interviews and codification. The results are split into three parts. First, the profiles of the interviewees will be presented. The profiles include the distribution of the role categories, their familiarity with the lean startup methodology and their sentiment towards the methodology. Second, the "as is" decision framework will be introduced. Afterwards, the contextual factors mentioned during the interviews will be listed. The actual approach, which was used for the generation of the results, can be found in Chapter 3 (particularly Section 3.5).

4.1 Profile of the Interviewees

In total 16 interviews with employees of KPMG were conducted. The distribution of the roles over these interviews was as follows:

Role	Number of interviews
Project Manager (PrM)	3
Portfolio Manager (PoM)	6
Controlling (C)	3
Leadership (L)	4
Interviews in total	16

Table 6 - Number of interviews for the main case

Out of these interviews, the majority of people expressed familiarity with the lean startup methodology with most having read the book. The distribution is as follows:

Role	Number of interviewees familiar: yes/no
Project Manager (PrM)	3 / 0 (out of 3)
Portfolio Manager (PoM)	5 / 1 (out of 6)
Controlling (C)	1 / 2 (out of 3)
Leadership (L)	2 / 2 (out of 4)
Familiar in total	12 (out of 16)
Unfamiliar in total	4 (out of 16)

Table 7 - Familiarity of the interviewees with the methodology

Being asked directly about their sentiment towards the methodology, the majority of interviewees expressed positive sentiment. Nobody said anything negatively about applying the methodology, with some interviewees stating a neutral or relativistic sentiment. The following two tables give an overview of the sentiment of the interviewees depending on whether they are familiar with the methodology or not. The judgment of interviewees, who were not familiar, is based on the introduction by the interviewer.

Judgement	Number of interviewees
Positive Sentiment	10 (out of 12)
Neutral Sentiment	2 (out of 12)
Negative Sentiment	0 (out of 12)

Table 8 - Sentiment of interviewees familiar with the methodology

Judgement	Number of interviewees
Positive Sentiment	3 (out of 4)
Neutral Sentiment	1 (out of 4)
Negative Sentiment	0 (out of 4)

Table 9 - Sentiment of interviewees unfamiliar with the methodology

4.2 Decision Framework

During the interviews, it became clear that the current decision framework does not follow a pervasive formal process. This lack of formal controls is because the company is still going through the transformation process of finding the optimal configuration to control the venturing process. This insight was verified through the codification, with 9 out of 16, who directly commented on this fact, saying that the process currently is qualitative at heart and trust based because the company is still learning and realigning.

The internal naming convention of the phases follows a different pattern than the names used in the literature. Nevertheless, they mirror each other so that the following matching can be made:

- Startup = Idea
- Transition = Lab
- Scaling = Grow
- Exit = Harvest

From here on the corporate naming convention will be used. The current decision process looks as follows:



Figure 19 - Overview of the decision process

An idea can be put forward by any employee within the company, and the venture automatically becomes starts in the startup/idea phase. The employee must refine his vision and scope and fill out the so-called intake form. The information which is required as part of this form is listed in Table 10, marked as required for the intake committee. The intake committee then uses this form as a decision foundation for the initial intake. Depending on the size of the needed

investment, the approval can be given either by the portfolio manager or an extended approval process including multiple participants from the leadership. The intake form does not differentiate between different types of ventures. It is used for novel ideas by employees, but also to onboard external alliance partners with potentially mature products. It can, therefore, be compared to a typical business plan.

If intake committee gives the initial approval, the venture graduates towards the lab phase. Throughout the last three phases (lab, grow and harvest) the venture is then evaluated through two complementary committees. The asset-life cycle committee takes over with the ongoing validation, and the invest-/divest committee is responsible for taking final investment and divestment decisions. The committees are held periodically, take all relevant decision: continuation, termination, further investment. The information presented to the respective committees are listed in Table 10.

The goal of the lab phase is to test the viability of an idea and develop the first product. The formal end goal for the lab phase is selling the product to three clients therefor acquiring direct market validation. After this validation is achieved, the venture moves into the growing phase. This graduation unlocks marketing budget and raises the bar with regards to the aimed for the goal. The end goal of this phase is to sell the product now to ten additional clients and show a revenue potential of 1 million euros. Is this reached, then the venture moves upwards towards the harvest phase, where it receives a dedicated team and graduates from the operational sovereignty of the innovation department.

The different stakeholders participate in each of the committees as follows:



Figure 20 - Distribution of stakeholder categories over decision instances

The criteria to move a venture from one phase to the next are listed below:



Figure 21 - Decision criteria for determining the current innovation phase

While this resembles a stage-gate process (85), it is not. The phase of a venture has no impact on the actual validation through the asset life cycle committee. The gates mainly serve the internal classification and are used to unlock the marketing budget once the grow phase is reached. The time designated to be spent in each phase, while generally being defined, is qualitatively assessed and not strictly enforced. The process generally resembles a buildmeasure-learn loop, as introduced in 2.4.2. The number of required customers might seem small, because most ventures focus on the business to business (B2B) market. The following metrics are provided in the respective committees (Qli. = Qualitative / Qnt. = Quantitative):

Metrics		Presented in			
		Intake Committee Committee		Invest- /Divest Committe e	
Qli.	General Information	Yes	No	No	
Qli.	Value Proposition	Yes	No	Yes	
Qli.	Market Information	Yes	No	Summariz ed	
Qli.	Business model	Yes	No	Summariz ed	
Qli.	Venture Objectives	Yes	No	No	
Qli.	Feasibility & Risk	Yes	Yes No		
Qli.	Compliance & Independence	Yes	No	No	
Qli.	IT Security	Yes	No	No	
Qli.	Third Parties	Yes	No	No	
Qnt.	Profit & Loss Predictions (next 4 years)	Yes	No	No	
Qnt.	Investment Requirements	Yes	No	No	
Qnt.	Investment Milestones (to unlock)	Yes	No	Yes	
Qnt.	Current Financials	No	Yes	Yes	
Qnt.	Current Engagements	No	Yes	Yes	
Qnt.	Current Opportunities	No	Yes	Yes	
Qli.	IT Security Risk Status	No	Yes	Yes	
Qli.	Product Maturity Status	No	Yes	Yes	
Qli.	Run & Maintain status	No	Yes	Yes	
Qli.	Background information (only if failing)	Not applicable	Yes	Yes	
Qli.	Analysis of failure (only if failing)	Not applicable	Yes	Yes	
Qli.	Learnings (only if failing)	Not applicable	Yes	Yes	
Qli.	Next steps (only if failing)	Not applicable	Yes	Yes	

Table 10 - Overview over the information used as a decision foundation

During the interviews, the interviewees stated the current process is very qualitative, and that decisions are often taken based on the judgement of the responsible portfolio manager. The interviewees mentioned the following challanges:

1. Lack of alignment and communication

Multiple interviewees mentioned that there is no consistent agreement or even definition of different concepts used to assess the ventures quantitively. The communication between stakeholders happens passively and manually and does not prove to incorporate everyone. To that, an interviewee said: 'But we have not defined any metrics on which he can actually base his conclusion. [...] When is a red light a red light? Now, it is because [the project manager] says: well, it is not going that good, so it is orange.' [PoM4, 06/06/2018]

2. Lack of experience

Multiple interviewees mentioned that they lack knowledge surrounding lean startup ventures and therefore must trust and rely on the judgment of the project and portfolio managers directly employed in the innovation department. An interviewee said the following: 'And based on that they advise us what to do with the asset [and] to be honest, most of the time we agree because most of us do not really have enough knowledge and insight to make the right decision.' [C2, 29/05/2018]

3. Lack of additional information

Multiple interviewees mentioned that specific information, they would like to see to take an educated decision, was currently not being presented or evaluated during the process. This information includes, for example, the relationship between certain ventures and established departments or currently targeted markets.

4. Lack of tools

Many numbers and information are currently gathered manually. Interviewees mentioned multiple problems with regards to this. On the on hand, it makes it a significant effort to gather the necessary information, since they must be collected from different departments and software solutions. On the other hand, the flow of this information even once collected and computed works still in a manual way, with no possibility for, for example, controlling stakeholder to get an insight on the venture progress continuously.

While the interviewees acknowledged those challenges, they also stated that they are satisfied with the formal process (presented in Figure 18) in itself. They said that they felt that not the process is hampering the success and control, but rather the available set of information.

4.3 Contextual Factors

Additional to the analysis of the decision framework, the interviewees were asked to elaborate on additional factors influencing the venturing process besides the formal decision process. This insight is in line with the literature analysis, as research suggests that especially during the transformation and adaption a multitude of factors, other than the formal decision and controlling mechanisms, play a role.

These factors are called "contextual factors" since they relate to the context of the decision framework, which is made up of the mindset & culture, the organizational environment including its configuration, as well as the implementation of the lean startup methodology within the company. The coding tree for the contextual factors is as follows:

		Respect based working		
	Current culture	Conservative environment		
	(4.3.1.1)	Difficult for new people		
		Need to establish innovation function		
ure	Differences in working with	Delivering vs Cooperating		
ultı	customer	Knowing vs Asking		
& C ¹ 3.1)	(4.3.1.2)	Having vs Searching		
et 8 (4.3		Clear instructions vs. No instructions		
spu	Differences in type of work $(4, 3, 1, 3)$	Reactive vs Proactive		
Miı	(4.3.1.3)	Short time vs. Run & Maintain		
		Low margin vs Investing		
	Differences in monetization	Short-term vs. Long-term		
	(4.3.1.4)	Stable vs Volatile		
		Different distribution of returns		
		Fewer customers		
	Higher expectations & quality standards			
	Being a professional service	The difficult and long sales process		
	(4 3 2 1)	High complexity		
ent	(1.5.2.1)	High risk & regulations		
uu		Independence issue		
/iro		Insecurity around applying the methodology		
Env 2)		Suboptimal coordination		
lal 1.3.	(4322)	Lack of common definitions		
tior (4	(1.2.2.2)	Unaligned software & manual workarounds		
iza		Communication channels		
gan		The different focus in selection criteria		
Or _{	Low embedding of	Unaligned KPIs - Individual		
	entrepreneurship within the	Unaligned KPIs - Department		
	organization	No dedicated career path		
	(4.3.2.3)	No dedicated time		
		Misaligned incentive structure		
po	Lack of familiarity with the	General unfamiliarity		
eth	methodology within the	Not being used to kill projects which are failing		
.9 M	(4.3.3.1)	Using vanity metrics		
artu 4.3	Not following the second data of	Hesitance to approach customers		
Sta (learning method	Not asking the customers		
ean	(4,3,3,2)	No re-verification of assumptions		
		Shaping the future themselves		

Table 11 - Coding tree of the contextual factors

While the first category, mindset & culture, explores the factors arising from differences between the traditional and the new way of working with particular attention to the human side of things, the second category, organizational environment, takes a distinctive look at the formal configuration of the company, and respective challenges. The last category explores the challenges that arise directly from applying and adapting the lean startup method within the company.

The rest of the chapter will lead through the points and present the statements mentioned.

4.3.1 Mindset & Culture

Multiple interviewees stated that the mindset and culture within the company influences the venturing process. Due to the business environment within the industry, a culture has evolved, which focuses on operational excellence and trust-based relationship. Interviewees mentioned that this culture within the core businesses does not yet account for innovation and entrepreneurship. One interviewee put it as follows: "they are just doing what they have been doing and where they make money" [PoM6, 12/06/2018].

		Respect based working
	Current culture	Conservative environment
	(4.3.1.1)	Difficult for new people
		Need to establish innovation function
ure	Differences in working with	Delivering vs Cooperating
ultı)	customer	Knowing vs Asking
& C 3.1)	(4.3.1.2)	Having vs Searching
et 8 (4.		Clear instructions vs. No instructions
spu	Differences in type of work $(4,2,1,2)$	Reactive vs Proactive
Mii	(4.5.1.5)	Short time vs. Run & Maintain
		Low margin vs Investing
	Differences in monetization	Short-term vs. Long-term
	(4.3.1.4)	Stable business vs. Volatile business
		Different distribution of returns

Table 12 - Challenges due to mindset & culture

In the following, the different factors within the category of mindset & culture will be presented.

4.3.1.1 Current culture

Current culture	Respect based working	
	Conservative environment	
	Difficult for new people	
	Need to establish innovation function	

Table 13 - Challenges due to the current culture

Multiple interviewees explicitly talked about the current culture within the company and how it led to challenges with introducing the new methodology. Interviewees spoke of a culture of respect, which determines the freedom of each individual to deviate from the established processes. Whereas senior employees can take the freedom they need, starters and joiners might face resistance when introducing change. One interviewee said that, while his track record of extended employment and successful projects allows him to experiment, newcomers to the company face difficulties and higher scrutiny. To directly quote: "[...] we have had failures of good people coming in, just not being accepted because they do not have track records in the firm." [L1, 29/05/2018]

An interviewee stated that this also extends to the innovation unit as a whole. The innovation unit still needs to establish itself within the company and reaching this legitimation influences how freely they can apply entrepreneurial methods. Others advanced this point and referred to a conservative mindset, which they experience when interacting with the broader company. One interviewee said about this: "[This] means that they are also looking at innovation, or anyone in that space, as a strange thing. And there might be some views like: 'Okay, we are really working hard, we are bringing in the money, and they are burning the money'. That is like one perception. Not everyone has that perception, and it is a perception that's quite hard to manage." [PoM6, 12/06/2018].

4.3.1.2	Differences	in	working	with	customers
---------	-------------	----	---------	------	-----------

Differences in working with customer	Delivering vs Cooperating Knowing vs Asking Having vs Searching
	1 1.00 . 1 1

 Table 14 - Challenges due to the differences in working with customers

Multiple interviewees stated that the differences in the way of working with the customer, between traditional consulting business and customer-centric solution development, create challenges. While the common task of a consultant was described as delivering answers to an issue, which the client cannot or does not want to solve himself, the new methodology asks for cooperation with the customer. In the past, the customer expected the best possible service, as well as a team, working autonomously without the need of continuously give feedback to the consultants: "[We are] a consulting firm, and we are consultants, and we generally think that we know stuff. We are [the specialists], we know better than the client about regulation, or how to do transactional stuff, whatever." [PrM1, 15/05/2018].

In contrast to that, innovation requires, interviewees said, to let go of the attitude of knowing it all. Moreover, the interviewee goes on to say: "First if you develop a product, you must admit that you know so little. I have seen many great consultants coming with great ideas. But they were very hesitant in going to the client, actually be vulnerable and actually trying to lay down their assumptions." [PrM1, 15/05/2018]. The interviewees described this as a contrast between knowing all the answers, anticipating client needs, and satisfying the client through rigid and hard work, and following the lean startup methodology by experimenting, integrating the customer into the development phase and working together closely.

Interviewees stated that the units focused on the traditional business are uncomfortable with this shift. Because of this, they deny access to their network of clients instead of levering it for customer validation. An interviewee stressed that the company needs to overcome this and that the innovation unit and other units need to work together: "We know that we need this, we need the network. But of course, we are dependent on our colleagues to give us access to the network." [PrM1, 15/05/2018].

This denial of access was said to be related to a general hesitance to present MVPs to the clients, which employees perceived as unfinished products. It was stated that this was a barrier felt resulting from the current mindset of the business. Directly connecting on this another

interviewee stated: "the old idea in the business was, that you need to have a product to sell to the client because clients are buying a product and not an idea. And then we said: well that is not the case, you can actually sell an idea and then together with the client build it." [C1, 11/06/2018]

4.3.1.3	Differences	in ty	pe o	f work
	Differences			<i>,</i>

	Clear instructions vs. No instructions	
Differences in type of work	Reactive vs Proactive	
	Short time vs. Run & Maintain	
Table 15 - Challenges due to differences in the type of work		

Table 15 - Challenges due to differences in the type of work

The previous section spoke about the differences between the relationship to the customer. Interviewees further commented about differences in the characteristics of the work done, between traditional projects in contrast to new innovation projects, which led to challenges.

When describing traditional projects, interviewees spoke about clear objectives and tangible outputs. Consultants were said to expect fully functioning and polished products from the start. In the words of an interviewee: "And the [consultant has the] assumptions, that this is the fullblown product. People think: oh wow, but this is what you are going to put on the market? Of course not, this a prototype. And it is part of a larger journey [...] and part of a larger roadmap, what we have to build towards it." [PrM3, 13/06/2018].

Additionally to this difference in project outputs, Interviewees stated that traditional projects possessed a clear path of progression and a high degree of certainty. Innovation, on the other hand, was said to require proactiveness and creativity. An interviewee commented on the fact that some people were more reactive than proactive and returned to business as usual at the first opportunity. The attitude of many consultants was described as: "Okay, I did that for three months, I learned a lot, it was really valuable for me, but now I am going to return, and I will do consulting" [PoM6, 12/06/2018].

One interviewee further commented, that while past engagements and contracts potentially lasted multiple years, individual projects only lasted for short periods and ended with clear deliverables. Providing digital solutions, on the other hand, was said to require continuous support towards the customer. One interviewee stated that: "if I sell [an asset to a client], something for 2 million a year, they expect me not to do hit and run. I need to be there all the time and for the coming years." [PoM1, 25/05/2018].

	Low margin vs Investing	
Differences in monotization	Short-term vs. Long-term	
Differences in monetization	Stable business vs. Volatile business	
	Different distribution of returns	

4.3.1.4 Differences in monetization

Table 16 - Challenges due to differences in monetization

Another difficulty surrounding the venturing process, which was mentioned by interviewees, are the differences in monetization. Describing the status quo of doing consulting business, one interviewee stated: "[...] usually the advisory business is very stable, and there could be one client engagement that has negative margins or two. But overall the business units, they have positive margins." [C3, 01/06/2018]. This assumption was said to be in direct contrast to investing in an innovation portfolio, which means putting money down in a potentially unsuccessful initiative without being able to reclaim parts of the investment. An interviewee stressed this point and said: "What I think that is new to [the company] is that we are not used to first invest and then expect some revenue later on." [PrM1, 15/05/2018]

Steering the traditional business was described as quite simple: "[W]e are an hour's factory. Every hour is billed immediately, and you can see the revenues immediately, and you can also steer" [C2, 29/05/2018]. The past focus was described as short-term oriented with a high degree of certainty, and with further engagements being managed at a future point in time: "If we can do an engagement today or win an engagement today, we will focus on it. And the target for next week, that is next week. And that is sometimes is very difficult" [L1, 29/05/2018]

This stability of returns and business contrasts with innovation projects and was said to have created wrong and unrealistic expectations with regards to the revenue that can be earned with these projects. Interviewees mentioned differences in the distribution of returns, with innovation projects potentially producing losses or little returns in the short term, while outperforming traditional projects in the long term. One interviewee stated that this means that ventures, especially in the beginning, might often be looked upon as mainly costing money without producing any relevant contribution.

Further, another interviewee stated that this led to a suboptimal distribution of resources. The concrete case was that the compy was said to provide little resources for initial experimentation, and enormous resources for marketing budgets later on: "Now we try to put small money in, but then we panic if it gets bigger here. But we are not afraid to put in 150k of marketing spent, for example" [PrM3, 13/06/2018].

4.3.2 Organizational Environment

While the former section explored the factors arising from culture and mindset, based on the different focus of exploitation of core businesses and exploration of new businesses, this section looks at the influencing factors and challenges due to the configuration of the organizational environment.

The organizational environment is made up of two components: First, the context of the industry, which includes the specific type of customer professional service companies serve, the regulatory environment which surrounds the industry, as well as the characteristics of doing business in that environment. Second, the formal configuration of the organization, which includes, for example, the employment configuration including, for example, the career opportunities and incentive structures, as well as the procedural and controlling framework, composed of KPIs and processes.
iment	Being a professional service company (4.3.2.1)	Fewer customers Higher expectations & quality standards The difficult and long sales process High complexity High risk & regulations Independence issue
zational Enviro (4.3.2)	Being in transformation (4.3.2.2)	Insecurity around applying the methodology Suboptimal coordination Lack of common definitions Unaligned software & manual workarounds Communication channels
Organi	Low embedding of entrepreneurship within the organization (4.3.2.3)	The different focus in selection criteria Unaligned KPIs - Individual Unaligned KPIs - Department No dedicated career path No dedicated time Misaligned incentive structure

Table 17 - Challenges due to the organizational environment

4.3.2.1 Being a professional service company

	Fewer customers
	Higher expectations & quality standards
Being a professional service	The difficult and long sales process
company	High complexity
	High risk & regulations
	Independence issue

Table 18 - Challenges due to being a professional service company

One of the key characteristics of a professional service company is the focus of the business to business (B2B) market. In the case of this research, this means not only other companies but mainly other large enterprises. One of the interviewees described the situation as follows: "My target group is enterprises, 5 billion plus revenue enterprises." [PoM1, 25/05/2018]. This focus on enterprises means that there are only a few potential customers, which make up for their small number with bigger purchasing power. Nevertheless, the target market is much smaller, than if compared to, for example, the business to customer (B2C) market.

Interviewees described that this creates issues when applying the validated learning approach. The first issue, which was mentioned, was that the limited pool of potential customers makes it more painful to lose customers. If, for example, the initial advertisement or the first MVP is not perceived positively, a customer might already be unperceptive for future cooperation. An additional challenge, which was mentioned, was that customers generally have higher expectations with regards to the quality of outputs, if it is delivered by a large enterprise rather than an inexperienced startup.

Additionally, even in the case that a potential customer wants to buy something from the company, an interviewee said, that there are rigid and strict processes to follow, which results in multiple issues. The interested party within the buying company needs to be able actually to

initiate the purchase. Additionally, the total sales cycle was described as much longer than in the case of working with small companies or the B2C market. This delay slows down the speed of the market entrance of any solution. Both these points were addressed during the interviews with one interviewee saying: "it is not only about him wanting to buy him, but it is also about this person being able to move his organization into the state where they can buy it." [PoM2, 31/05/2018]. Another interviewee adds to this: "So for example, an average sales cycle here takes nine months, which is maybe different when you try to sell an Airbnb and you have B2C customers who can decide at the moment" [PrM1, 15/05/2018].

Further, the focus on B2B customers was said often to require highly complex solutions to highly complex problems. As described in the literature review in Section 2.2.4, many startups focus on the so-called segment zero and try to find cheap and simple innovation through new technologies for specific problems. Interviewees stated that many solutions for their clients, on the other hand, required complex solutions, which might not easily be developed in a lean way.

Being a professional service company means that there is a high risk that surrounds the work the company must perform. This risk goes hand in hand with high regulatory requirements, which the regulating bodies of the world apply to mitigate potential wrongdoings and lack of due diligence. The need to comply with this and ensure certain quality standards was said to take its toll on the innovation process. An interviewee said about this: "We can build an MVP, but if then the MVP needs to meet our brand criteria, needs to meet our risk criteria, needs to meet... then, in the end, it is no longer an MVP but a full fletched solution." [PrM1, 15/05/2018].

Last, but not least, the interviewees mentioned a regulatory issue unique to an audit company. Regulations require professional service companies to adhere to independence standards. Simply put this means that somebody who sells, for example, a software solution to a company, cannot simultaneously be the person who audits the company. An interviewee stated this as an urgent problem, as this alone "probably take[s] 25% of the [customer in the] market out upfront." [L1, 29/05/2018].

	Insecurity around applying the methodology	
	Suboptimal coordination	
Being in transformation	Lack of common definitions	
	Unaligned software & manual workarounds	
	Communication channels	

4.3.2.2 Being in transformation

Table 19 - Challenges due to being in transformation

As said in the case description in Section 3.2.1, the company was still in a state of transformation and learning during the time of the interviews. This transformation has led to different departments possessing different levels of progression towards integrating the lean startup methodology into their daily business and gave rise to a couple of challenges, which were mentioned during the interviews.

Multiple stakeholders mentioned unclear expectations and support between different parts of the company. One interviewee explicitly stated this missing alignment as the most challenging part: "I think the only thing that should be improved is the coordination with existing other teams and departments within [the company]. [...] I think, that is the most difficult part." [PrM2, 18/05/2018]. One interviewee commented about the metrics provided during the committee sessions and said that "at this moment we are looking at different metrics most of the time and that makes the discussion a little bit difficult" [C2, 29/05/2018]. Another interviewee mentioned the high requirements with regards to specific knowledge for answering certain question required by the risk, security, or compliance department. Common definitions and shared understanding were described as lacking.

Correspondingly, the transport of the information within the company was mentioned as a challenge. The software to track operational and organizational metrics was still configured for the traditional consulting business, and multiple steps for the computation and communication of data and information must be done manually. One interviewee said "...what we are already doing right now [...] takes a lot of time for [controller]. [...] She tries to do that every month, to update the dashboard. But she has to wait for numbers from finance, and they take a lot of time. So, there is still in the controlling space a lot of time-consuming activities." [PoM3, 05/05/2018].

Furthermore, the interviewees mentioned the available set of communication channels with regards to news and knowledge as suboptimal. Interviewees stated that there was a low availability within the firm about the offering of the innovation unit. The dispersion of information was perceived as not working sufficiently. This lack of information was seen as a missed opportunity to include colleagues from everywhere and facilitate their entrepreneurial potential. One interviewee external to the innovation unit stated that innovation is supposed to be fun and that there is an opportunity to improve the communication and share this fun with the rest of the company.

	The different focus in selection criteria	
	Unaligned KPIs - Individual	
Low embedding of	Unaligned KPIs - Department	
organization	No dedicated career path	
organization	No dedicated time	
	Misaligned incentive structure	

4.3.2.3	Low	embeddina	of	entrepreneurship	within	the ord	anization
	2011	ennoeddinig	σj	chicicprenearomp			,

Table 20 - Challenges due to low embedding of entrepreneurship within the organization

Multiple interviewees described challenges arising from a low embedding of entrepreneurship within the organization. The company possesses a traditional employment structure, with clear progression trough the career path and the partner title on top. Employees were said to be selected based on educational excellence and possessing of highly specialized and rare knowledge. One interviewee described this as "a world where people just have Excel sheets and PowerPoint and a good brain." [PoM1, 25/05/2018]. This low embedding impacts the innovation unit in different ways.

The KPIs, which are used to measure employee performance, were said to be not necessarily compatible with the goal of being innovative. Employees are judged by a straightforward equation: the profitability equals the utilization times the realization. The utilization is measured based on the hours which an employee can (productively) charge on work for a client engagement. The realization is the percentage which was achieved compared to his defined hourly fee. An employee, for example, that spends 80% of his time on client engagements while being able to charge 90% of his standard rate, therefore, acquires a profitability of 72%. This equation does not consider time spent on innovation. Hence, every innovation activity consequently lowers the utilization of an employee. While one interviewee said that this way of measuring performance leaves enough room for employees to take the time needed for innovation, at least six others said that this limits the capabilities of employees to be innovative. One described it as "a balancing act on productive hours and doing innovation" [PoM6, 12/06/2018].

This challenge of misaligned KPIs on an individual level was further mentioned as also being a problem on the level of the teams and departments. Teams and departments get judged by their productivity as well, and no shared profit model exists to let business units profit from the sales of innovation solutions they make. This lack of incentives was said to have led to a feeling of internal competition instead of cooperation. One interviewee described it by saying that "the majority of this organization does not have a benefit in actually showing the real numbers and benefits of an asset business." [PoM4, 06/06/2018].

Further, interviewees mentioned other parts of the employment configuration as possibly hampering the innovation activities. The general selection process of potential employees was said to look for other qualities than what is needed for innovation. Interviewees stated that the confinement to the pool of company employees makes it sometimes difficult to find employees with the skills needed for entrepreneurship. More, within the company there currently exists no dedicated career path, which focuses on innovators. Moreover, also incentives are given for overall performance based on the profitability equation, with no particular incentive to innovate. Some interviewees perceived this as problematic, while others said that entrepreneurial behavior does not need to receive special incentives.

4.3.3 Lean Startup Method

Whereas the previous two sections discussed factors, arising from the tension between the past and the present. Also the adaption and usage of the lean startup methodology in itself was mentioned as an influencing factor. While the previous sections where innovation related, this section addresses the specific challenges due to the lean startup.

n Startup od (4.3.3)	Lack of familiarity with the methodology within the company (4.3.3.1)	General unfamiliarity Not being used to kill projects which are failing Using vanity metrics
Leai Meth	Not following the validated learning method	Hesitance to approach customers Not asking the customers

(4.3.3.2)	No re-verification of assumptions
	Shaping the future themselves

Table 21 - Challenges due to the lean startup method

4.3.3.1 Lack of familiarity with the methodology within the company

	General unfamiliarity
methodology within the company	Not being used to kill projects which are failing
methodology within the company	Using vanity metrics

Table 22 - Challenges due to lack of familiarity with the methodology within the company

One common factor that multiple interviewees have mentioned is the general unfamiliarity of the broader company with regards to the lean startup methodology. One interviewee described the challenge as getting "the entire organization to understand what we are doing [...] basically [...] to make sure that all these people here understand: okay, what does digital mean, what does technology mean, and that it is logical, if we create new software solutions, that we work in the flow of idea, lab, growth, harvest." [L2, 12/06/2018]. The unfamiliarity with the methodology and therefore unclear or unrealistic expectations were mentioned to lead to a series of other challenges.

Interviewees mentioned the unfamiliarity further in the context of failing projects. While some interviewees ensured that failure and volatility of results is part of the journey and already accepted within the company, this view was not shared by everyone. Others mentioned that when money is invested in one project, the company will focus on at least making it a partial success to get part of the money back. Another interviewee described it as follows: "[...] its kind of like [...] sunk cost. You can just say: look, you put the money in, it does not work. So, either we throw more money at it and hope that sometimes it returns, or we fail with a lot more money in a year from now." [PrM3, 13/06/2018]

Often, interviewees said that the unfamiliarity also leads to stakeholders looking at the wrong metrics or making use of vanity metrics. One interviewee described delivering the current set of required metrics as being "bound together by guesswork" [PoM4, 06/06/2018]. The problem was further picked upon by another interviewee who said: "What is the ROI? When do we break even? And how much does the development cost? All of this I cannot yet tell you because we are at this phase we have of the business model but there are so many possibilities: building, partnering, one-off license based. I just don't know yet." [PrM3, 13/06/2018].

noisiz not johowing the valiated learning method		
	Hesitance to approach customers	
Not following the validated	Not asking the customers	
learning method	No re-verification of assumptions	
	Shaping the future themselves	

4.3.3.2 Not following the validated learning method

Table 23 - Challenges due to not following the validated learning method

Multiple interviewees signalled that they see deficiencies with regards to the application of the validated learning approach. The most extreme judgement with regards to this challenge was given by one interviewee who said: "I think in our process we completely miss the customer. The only the customer is built in is, when did we sell to the customer. But customer behaviour

and all that kind of stuff is really not built in there." [PrM3, 13/06/2018]. Another interviewee, on the other hand, stated that the customer is rarely the problem since the company's work is close to the clients. The sentiment of the majority, though, aligned with the former interviewee and described it as challenging to engage the customer closely.

Multiple interviewees criticized the lack of re-verification of historical data with regards to the provided metrics and assumptions. Interviewees questioned whether, for example, the P&L, provided during the intake, ever gets revisited.

Lastly, Interviewees mentioned that even if the validated learning approach was applied, fully trusting the methodology and basing all decisions on experimentation is challenging. While they stated that trusting the method is the way to progress forward, one interviewee expressed the status quo as follows: "We are too much trying to shape the future ourselves instead of trusting the methodology and let it be shaped for you." [PrM1, 15/05/2018].

4.3.4 Opportunities

This section presents the opportunities identified during the codification of the interviews. Some directly relate to factors which were listed as challenging in the previous sections (4.3.1, 4.3.2, 4.3.3), some are general improvements which the interviewees saw. The opportunities are categorized with regards to which component of the venturing process they address.

		Must-have basis for information requirements
	Controlling framework	Including different metrics
		Consistent alignment between all parties
	(1.2.1.1)	Automation of generation and flow of metrics
		Progressive increase of control
	Validated learning methodology (4.3.4.2)	Focus on learning and experimentation
		Focus on customer validation
		Develop stronger market awareness
		More autonomy for the innovation function
S	Innovation function (4.3.4.3)	Dedicated controlling unit
itie)		Flexible and adaptive governance structure
tun 3.4		Free selection of employees
por (4.	Startup/idea phase (4.3.4.4)	Start more ventures
ĺdC		Defer quality requirements to after validation
Ū		Low-code platforms
		Levering strengths (brand and network)
		Lump-sum financing
	Integration (4.3.4.5)	Dedicated time for innovation
		Common platform
		Embed ventures in the company through
		association (units, strategy)
		Improve communication and knowledge
		spillover
		Adapt employment configuration

Table 24 - Overview of the opportunities

4.3.4.1	Controlling framework	
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Controlling framework	Must-have basis for information requirements Including different metrics Consistent alignment between all parties Automation of generation and flow of metrics
	Progressive increase of control

Table 25 - Opportunities with regards to the controlling framework

Many interviewees advocated the improvement of the controlling framework and stated that the controlling for each phase should work on a must-have basis. One interviewee answered with the following questions, when asked how the metrics throughout the phases should look like: "What is the one value?" [PoM6, 12/06/2018]. The suggestion was to rethink, which information is required where, and to keep the controlling framework lean. Concerning the provided metrics, interviewees said to focus more on the learning and validation by, for example, including more metrics aimed at representing customer behavior.

Additionally, interviewees suggested that improving the consistency of the controlling framework and agreeing on standard sets of metrics would be a significant improvement. Interviewees stated that this change should also include defining the data points as well as a realistic baseline to measure against. For example, traffic light indicators, used throughout the process, were mentioned as requiring a consistent definition. Currently, they were said to be based on the personal judgement of the project manager.

Interviewees further commented that the control framework could potentially be progressive in its usage of classical (financial) indicators. In the words of an interviewee: "So it means, that these hard money criteria should not apply for idea and lab, later they make sense because at some point you are going into a profitable direction" [PrM1, 15/05/2018].

Finally, interviewees suggested the automation of both the computation as well as the transport of data, by adapting the software to be able to accommodate the new methodologies.

4.3.4.2 Validated learning methodology

	Focus on learning and experimentation
Validated learning methodology	Focus on customer validation
	Develop stronger market awareness
Table 26 Opportunities with regards to the validated learning mothed along	

 Table 26 - Opportunities with regards to the validated learning methodology

A big challenge that multiple interviewees mentioned was the lack of hands-on customer validation. This lack was mentioned together with the hesitance to present early MVPs, as mentioned in 4.3.1.2. Interviewees advocated to change this and increase the focus on learning. Interviewees said, that both the experimentation should be strengthened as well as the review of past steps and outcomes to reach this goal.

Also, the ongoing validation of ventures was said to profit from a stronger embedding of market awareness potentially. An interviewee stated: "Demand is not interesting if the supply is [already] there" [PoM4, 06/06/2018]. Not only the demand side of the market should be evaluated but also the supply side by looking at the direct competition.

4.3.4.3 Innovation function

Innovation function	More autonomy for the innovation function Dedicated controlling unit Flexible and adaptive governance structure
	Free selection of employees
Table 27 - Opportunities with regards to the innovation function	

Interviewees advocated for more autonomy of the innovation function within the company. One interviewee from the controlling role category proposed to form a dedicated controlling unit responsible for supporting the innovation unit solely and take the lead in defining a common framework.

Further, one interviewee stated that the governance structure should be flexible and adaptive to account for the fact that the optimal configuration is not found yet. The interviewee said: "Well, this format of decision making, or investment does not work, let's try another one, let's adopt a little bit." [PrM3, 13/06/2018].

Interviewees from within the innovation unit suggested that the unit should have the possibility to pick employees freely. Multiple interviewees stressed the importance of having the right people within the innovation ventures. One interviewee, being asked about the most important factor when it comes to venturing, said: "That is, who is doing it. So basically, what team or what entrepreneurs are driving this concept." [PrM2, 18/05/2018]. Being able to freely pick employees was seen as suitable mitigation by some interviewees.

	Start more ventures
	Defer quality requirements to after validation
Startup/idea phase	Low-code platforms
	Levering strengths (brand and network)
	Lump-sum financing

4.3.4.4 Startup/idea phase

Table 28 - Opportunities with regards to startup/idea phase

Multiple interviewees advocated the idea of enabling a higher number of ventures. Others disagreed, citing experiences from past initiatives, which ended with many ideas launching into ventures and nearly none being followed through once employees went back into their daily work routine. So, while some interviewees wanted to enable more ideas, others said that this should be done with caution.

Another suggestion was to support the idea phase through low-code software, which allows non-specialists to create demos and MVPs within a what-you-see-is-what-you-get fashion, i.e. with a simple and graphical editor. This software was said to allow everybody to create actual outputs according to the vision of an idea giver, without relying on external help or creating any additional cost.

Two suggestions were made to address issues with quality requirements due to regulations and compliance in the early stages of new ventures. First, by providing a technical platform for the creation of demos and MVPs. Compliance and regulations would be clarified on the platform level and therefore automatically extend to applications build on top. Second, interviewees suggested deferring hard requirements until the initial validation was finalized and to the point that these requirements were necessary.

Further, interviewees advised to better leverage the strengths of the company. Two things were mentioned: Leveraging the existing network of clients as well as the attractiveness of and trust in the brand. Sales to existing customers through the business units was described as "one of the most important sales channels" [C2, 29/05/2018]. Others stated that the brand makes the company also attractive for startups, which should be used to form mutually beneficial alliances.

Finally, one interviewee suggested the use of lump sums to allow teams to experiment and make the required purchases in the initial phase. This way of funding was suggested together with staged resource provision, so to reduce the risk and to have more control over investments. Further, interviewees suggested to decouple innovation ventures from the yearly budgeting and have more checks throughout the year.

4345	Integration
7.3.7.3	megration

Integration	Dedicated time for innovation Common platform Embed ventures in the company through association (units, strategy) Improve communication and knowledge spillover Adapt employment configuration
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Table 29 - Opportunities with regards to the integration

Multiple interviewees suggested strengthening the integration of innovators within the company, but also the innovation function within the rest of the company. Suggestions were to give employees dedicated time for innovation, and a communication platform to exchange experiences and ideas, as well as the necessary (technical) tools to do activities like prototyping by themselves.

To further improve the communication and increase the knowledge transfer and spillover, some interviewees stated that it could be an idea to start giving demo- and show days, or starting mobile microlearning. "It should be more fun. I think technology should start with: hey, I am interested because it is fun, and it brings something to me that I have not got right now." [L3, 12/06/2018]. The idea was to integrate everybody and make innovation an ingrained part of the culture. The focus, which was mentioned by an interviewee of the leadership role, should lie on showing products and ventures, instead of just spreading information through numbers and reports.

Others mentioned that the relation of ventures to the bigger context of the company could be improved. It was perceived as challanging to relate ventures to existing solutions and the markets. The idea stated was that by relating every venture, to both existing solutions and markets, everybody could quickly put them in context and understand which ventures might be specifically relevant to them. Putting ventures into the company context, was said, should also extend to the alignment of ventures to the current corporate strategy, which was said not always to be apparent. The strategic alignment should be made more clear to the broader company so that it is visible to the company how the venture brings value, then that could be an improvement. One interviewee said: "Well I think it all starts, what is the value we create for our clients. And that is where people here always get enthusiastic about." [L2, 12/06/2018].

Others suggested rethinking the employment configuration with hindsight to issues listed in, for example, 4.3.2.3. There was no consent in how, for example, the performance evaluation or the incentive structure should be changed, but many agreed that something should change. Merely the voices who warned of pushing and forcing colleagues uninterested in entrepreneurship into the role of an entrepreneur objected changes and suggested that entrepreneurial people will be proactive without additional incentives.

4.4 Results of the Validation Cases

To further validate the generalizability, mainly of the contextual results, additional interviews with two other banks were conducted. This section presents the results of these interviews. The additional validation will be used to determine the generalizability of the contextual findings, rather than for the validation of the decision framework itself. The reason for this is that the decision frameworks differ between the three companies both in implementation and complexity. A comparison of the decision frameworks is outside the scope of this thesis.

Bank A is one of the major banks in the Netherlands. With revenue of more than 8 billion euros and personnel of more than 20000 employees, it fulfils the requirement for being a large enterprise as defined in Section 2.3. The two interviewees were familiar with the lean startup methodology and advocated for its strength within the context of innovation.

Role	Experience with the lean startup	Sentiment towards method
Project Manager (PrM)	1	Positive
Portfolio Manager	1	Positive
(PoM)		
Controlling (C)	-	-
Leadership (L)	-	-
Interviews in total	2	

Table 30 - Interviewee overview for Bank A

Bank B is the investment bank of a larger banking group in Germany. With a revenue of around half a billion euro and around 2600 employees it is smaller than the other two cases, but still fulfils the definition of a large enterprise. The stakeholders who were interviewed were from the IT service branch of the bank and focused on innovating the digital portfolio of the bank. While the interviewees were not per se familiar with the lean startup methodology they possessed

experience with the agile development methodology, which shares most components with the lean startup methodology.

Role	Experience with the lean startup	Sentiment towards method
Project Manager (PrM)	1	Positive
Portfolio Manager	1	Positive
(PoM)		
Controlling (C)	1	Positive
Leadership (L)	1	Positive
Interviews in total	2	

Table 31 - Interviewee overview for Bank B

Section 4.4.1 and 4.4.2 directly derive from the interviews and summarize the statements of the interviews without additional commenting. The comparison of these findings to the main case can be found in Section 5.3.

4.4.1 Results of the interviews with Bank A

The following section summarizes the results of Bank A with regards to the in Section 4.3 presented contextual findings. Further, suggested improvements by the interviewees will be introduced.

4.4.1.1 Mindset & Culture

Both interviewees stressed the importance of both the culture of a company as well as the mindset of its employees. To facilitate innovativeness and enable the adoption of lean and agile methodologies, they said, employees should be entrepreneurial around innovation projects. Additionally, the company should create space for the transformation process and minimize the impact of politics, which was said to hinder progress.

Further, the interviewees stated that it is vital to develop an awareness that past successes are not predictive of future successes. Employees and companies should, therefore, go with an open mind into venturing and judge each other based on immediate work, rather than a past track record. Nevertheless, the interviewees also stated that authority and past successes should be acknowledged to onboard senior employees who otherwise could feel like they are losing control and therefore start resisting. A problem, which one interviewee mentioned, is the socalled "not invented here"-syndrome, which leads to internal competition through people lacking the feeling of ownership or association towards new ventures.

The interviewees further mentioned that the new way of work brings differences in the dynamic between company and customer. The corresponding example was the hesitance of employees to present MVPs to clients, analogue to what was described in Section 4.3.1. The portfolio manager said further that this requires employees to change their perception and adapt to the new way of working. The potential loss of reputation or trust were said not to be a critical risk, as the new methodology was said to promote a long-lasting relationship between both parties which was theorized to help the engaging and binding customer.

Lastly, innovation was characterized as uncertain and directed at longer timeframes. The interviewees commented that the business often focuses on short-term wins instead of long-term investments, which was said not to match the characteristics of innovation projects.

4.4.1.2 Organizational Environment

When asked about the difference between B2B and B2C, the portfolio manager confirmed that there is a difference. In contrast to what was said in 4.3.2, the difference was described as B2B bearing benefits. While the interviewee agreed that B2B implies having fewer customers, they said that the potential project sizes are much bigger. Additionally, the interviewee mentioned that business between companies should typically be more straightforward and more comfortable to handle, since companies were said to trust each other. Other reasons which were stated were strong consumer protection laws, which make it more difficult to sell to individuals, as well as longer-term contracts with business clients, which make the project implementation more manageable and more profitable due to longer time frames and higher commitment of the buying party.

Further, both interviewees stated that the regulatory environment and the high amount of controlling surrounding the work of the bank could make it challenging to keep agility. If processes are not kept lean, it was said that regulations and compliance could create waste in the processes and strip away the ability to react timely.

The interviewees also commented on the impact of the organizational configuration and challenges arising due to the transformation process. Organizational uncertainty, due to reorganizations or changes in the formal structure, were said to hamper the innovation process as, for example, a new operations manager needs additional onboarding and a settling period, which may slow things down. Further hampering factors were said to be the requirement to use legacy software, which might not be suited to the entrepreneurial needs. The possibility to not just use software readily available on the market was said to be a pain point. Additionally, the interviewees commented on the fact that large enterprises traditionally work with entirely different KPIs and metrics than startups, which makes it difficult to communicate and align due to a lack of shared vocabulary.

Lastly, the interviewees mentioned the legacy budgeting process. A yearly budget, which must be spent to stay the same size for the next year, was said to incentivize the wrong behaviour and may lead to suboptimal spending habits. Whereas startups are said to use resource scarcity to foster innovativeness and creativity, the interviewees stated that in the corporate environment many employees possess a buy-in attitude. This buying of serivces means, for example, that instead of filming promotional videos themselves, like startups would do to save money, corporates are inclined to higher expensive agencies to do professional and fancy videos for them. These videos were said not to produce the expected outcome in terms of traction.

4.4.1.3 Lean Startup Methodology

With regards to the lean startup methodology, both interviewees commented on challenges arising from the lack of familiarity of some actors within the company. This lack of familiarity

was said to lead to a lack of usage of the validated learning methodology. Instead of developing a thorough market understanding by aligning with the customer and gathering feedback, employees were said to implement their own vision.

Finally, both interviewees said that the company seems to have trouble killing projects which are failing. This struggle to kill projects was said to lead to waste and consumes resources better spent on other projects. When a project is failing, the company should make sure to free resources for other projects or save them for later, instead of delaying the failure.

4.4.1.4 Suggestions for Improvements

In the following the potential improvements and ideal states of an implementation will be introduced, as stated by the interviewees.

Both interviewees proposed creating a leaner and more iterative controlling framework, distancing themselves from the yearly budgeting process and extensive controlling. Regarding funding, the portfolio manager suggested employing an incremental process by defining milestones which unlock funding for the venture. Instead of giving enormous funding, the interviewees advocated for small initial investments to mandate creativity and force the venture to be innovative. Additionally, the size should be tailored to the ventures content to account for differences in environment and business model between ventures.

This progressive funding process was said to also translate to reporting, controlling and quality requirements. The initial focus of the venture should lie on validating traction and the underlying assumptions rather than handling compliance and risk issues. These things should be deferred to a later point after the potential of the venture is proven through customer validation. This focus on validation was said also to mean, that higher management should not micromanage the project manager. To make the reporting efficient, the interviewees proposed an automated gathering of metrics and continuous analysis.

Further, both interviewees stressed the importance of the validated learning methodology. Decisions should be based on client data and traction to allow the venture to find its market. The project manager stated that it is necessary to validate one's ideas by going out of the office and working closely with the target group to identify problems which can potentially be solved. The portfolio manager stated that validating, that there is an audience, is initially more important than having an extensive business case. To prove this traction, the interviewees suggested gathering both qualitative customer data, in the form of quotes and opinions, as well as quantitative data. Both said, however, that qualitative data is chiefly in the beginning more insightful.

With regards to how the company should design its innovation function, the interviewees suggested giving budgets to ventures, not time frames. If a venture is running out of money without hitting a required milestone, failure should be allowed and at least considered. This budget can otherwise be spent freely and without restrictions. Further, the venture should be able to pick well-suited colleagues or hire new people if required. The portfolio manager further

advocated the idea of discriminating between different types of innovation and enable ambidextrous processes to account for these differences.

Ultimately, to make the company more entrepreneurial, the interviewees suggested enabling mutual learning of all employees. Enabling this learning includes bringing together both young and more senior staff and train them on the methodologies as well as provide them with the tools to take actions by themselves, without external support.

4.4.2 Results of the interviews with Bank B

The following section summarizes the results of Bank B with regards to the in Section 4.3 presented contextual findings. Further, suggested improvements by the interviewees will be introduced.

4.4.2.1 Mindset & Culture

The sentiment of the interviewees concerning culture and mindset paralleled that of the other interviewees presented within this research. All interviewees commented on the importance to break up the legacy mindset, which they found to be present within the company. While the company made the first steps toward increasing their entrepreneurial capacities, the interviewees found that the company does not live by the new rules yet. The project manager commented on this fact directly and stressed the importance of the psychological aspect when adopting agile methodologies. It was further said that agility and dynamism require ownership and accountability from individuals instead of following strict processes like it was the case in the past.

An additional challenge that was put forward by the interviewees were the differences in working together. Whereas in the past the focus was on delivering products for the clients, the interviewees stated that in the future working with the clients will be of higher importance. Instead of being reactive, the goal was said to be more proactive.

4.4.2.2 Organizational Environment

Like the other interviewees, also the interviewees from Bank B commented on the challenges arising from the regulatory environment. Reacting to unforeseen changes was said to require agility.

With regards to the transformation towards a more innovative company, interviewees talked about the challenges arising from legacy processes and requirements. The project manager mentioned the old organizational structure, which focuses on systems and processes instead of solutions. This focus on processes was said to lead to bottlenecks within the process, as employees, responsible for certain parts of an overarching process, might be required by too many projects.

Further, the controlling framework was said not to be optimally adapted yet. This suboptimal adaption was said to show itself, for example, in the need to deliver forecasts at project begin, when variables of the project are not yet clarified. These forecasts were said to be required for the upcoming four years and are used by the group controlling to validate and potentially veto

a project. This requirement was said to produce additional effort within the process and potentially hamper the startup of promising projects if they do not fulfil the quantitative requirements.

Additionally, interviewees commented on the fact that the innovation department is currently separated from the core businesses. This separation was said to potentially disincentivize innovation within the operational workforce, as operational employees might think that innovation is only done by the innovation department.

Lastly, the interviewees also commented on the yearly budgeting periods. The interviewee from the leadership category stated that this might lead to suboptimal behaviour, similarly to what was described by Bank A. Receiving a budget is connected to needing a certain sum and new budgets are only giving at the beginning of the year. This procedure was said to lead to low flexibility regarding funding and potentially incentivizes overspending at year end to receive equal budgets in the future.

4.4.2.3 Lean Startup Methodology

The interviewees commented on the fact that that the broader company is not yet familiar with the new methodology and that this created challenges when employing cross-functional teams. This challange showed itself in the communication of project results and the focus on processes rather than outcomes.

One of the interviewees commented on the fact that the conditions to apply an agile methodology are not always there yet. Teams were not given the autonomy and power to work agile, with managers in the line of operation of individuals being able to influence the project operations.

Additionally, one interviewee commented on unrealistic expectations in the past with regards to the methodology. Where the methodology was said to be effective to improve market solution fit, it was seen by the broader company as a tool to develop faster and cheaper. This discrepancy led to a mismatch between expectations and reality and a suboptimal application of the methodology.

4.4.2.4 Suggestions for Improvements

The interviewees had various suggestions on how an improved state should look like. These suggestions will be introduced in the following.

Regarding controlling, the interviewees advocated for a leaner and progressively increasing approach. Questions that can't be answered in the beginning, for example with regards to compliance and regulations, should be put up for decision at a later point in time. This deferrence also extends to quality requirements, which potentially do not need to be adhered to in the beginning. The required business case, in the beginning, was said, could be constructed more leanly. The proposed suggestion was to develop the business case over time and enable flexibility within the period of initial validation.

The interviewee from the controlling department mentioned that reporting on ventures should enable all participating stakeholder to make sound decisions by providing all information required to understand the venture. In general, the interviewees stated that any reporting should contain both qualitative and quantitative information, to create a holistic understanding. The interviewees advanced this point by stating that the information should contain strong customer feedback and enable an awareness of the overall market. Further, the interviewees stressed the need for a baseline to enable the comparison of attained values to average values.

The project manager suggested focussing on project results and prototypes instead of relying solely on the reporting of metrics. By producing tangible MVPs combined with customer feedback, other information could be implicitly verified. The idea was said to be that when the output is promising the process to reach the output is of secondary importance.

Further, the interviewees advocated for more autonomy and cohesion of innovation teams. Whereas current teams might be cross-functional but not co-located, the company is striving for a higher amount of ownership by better integrating teams in the future. This aspired ownership was also said to mean giving teams more freedom and independence with regards to extensive processes.

Instead of requesting extended forecasts, the interviewees advocated for a higher focus on experimentation and validation. Where in traditional projects the initial outputs are plans and information, the interviewees suggested focusing more on tangible outputs and a closer alignment with customer satisfaction when starting innovation projects. This shift in focus, however, was said to be combined with an increased focus on learning to improve results continuously.

To further increase the focus on experimentation the, interviewees suggested different measures to strengthen the initial phase and the self-reliance of employees. A suggestion by multiple interviewees was to provide lump sums to ventures to allow more self-reliance and freedom initially. These initial funding was said to should be combined with milestones and incremental provision of additional funds, to keep control over the projects. Then, the money could be provided independently of a rigour budget plan, letting entrepreneurs spend it freely. Iterative validation should then decide whether additional funding will be given or not.

To increase the entrepreneurship within the company, the interviewees suggested to focus on giving more resources to the entirety of the workforce. Instead of completely separating the innovation department, it was suggested to provide training and coaching to interested employees. The stated rational was that innovation could not be institutionalized so that it is necessary to foster the capabilities of employees.

Further, interviewees mentioned that KPIs and incentive structures should be re-evaluated to ensure that they are in line with the new goals and methodologies. Innovation was described as

something which should be fun, and which can help motivate employees as well as enable them to realize themselves through the implementation of their ideas.

4.5 Summary of the Results

The codification of the interviews resulted in the identification of the venturing process as well as contextual findings, mediating the efficiency of the venturing process.

The venturing process, as described in Section 4.2, consists of two parts. The initial validation of ventures or rather ideas is handled through the intake process with the intake committee, consisting of the project and portfolio manager, validating ideas and deciding over a possible continuation. The second part of the process begins once ventures graduate towards the transition phase. From then onwards the ongoing validation is handled through the so-called asset life cycle committee, which is taking place periodically. All stakeholder categories participate here, and the committee takes on the initial validation and decision of continuation (and potentially additional funding) or termination of a venture. Decisions made by the asset life cycle committee must be confirmed by the invest-/divest committee, which is consulted during this process can be seen in Table 10.

Interviewees generally stated that not the current process in itself is the challenge but instead mentioned the following factors as challenging:

1. A lack of alignment and communication

Interviewees mentioned that there is no mutual understanding on which information is relevant for the assessment of ventures. Further, most metrics lack an proper baseline which would allow the stakeholder to assess venture performance.

2. A lack of experience

Interviewees not directly part of the innovation function mentioned that they lack experience and insight to assess internal lean ventures really.

3. A lack of additional information

Interviewees mentioned different information, which were currently missing in the process and which they would like to see added. Examples are the strategic alignment of ventures or a better understanding of the market situation a venture finds itself in.

4. A lack of tools

Interviewees stated that the gathering of information currently relies heavily on the manual alignment of different parties. Tools to automatically consolidate and calculate information are missing.

Additionally, so-called contextual factors, presented in Section 4.3, were found to influence the control and success of the venturing process. These are mediating factors which arise from the context in which the decision framework is embedded.

The mindset and culture category (4.3.1) contains factors directly resulting from the differences between the two types of work. Challenges arise when employees are not yet familiar with the

new methodology and look at the internal venturing process as well as the lean startup methodology from the perspective of the traditional work.

The organizational environment category (4.3.2) contains factors resulting from the organizational characteristics, e.g. being a professional service company, and the organizational configuration, e.g. the current model for performance validation of employees. Many of these challenges arise because the company is still going through the transformation process and is not yet fitted to foster entrepreneurial behavior.

Lastly, the implementation of the lean startup method within the organization (4.3.3) was found to further influence the venturing success, with interviewees stating that there is a lack of familiarity and with the methodology which leads to an inconsequent application. Examples are the hesitance to kill projects which are failing, or hesitance to thoroughly follow the validated learning approach.

5 Conceptual Analysis

This chapter contains the conceptual analysis of the results. First, the decision framework will be analyzed. Second, the contextual factors will be evaluated. Third, the main case will be compared to the validation cases. The chapter concludes with managerial recommendations to mitigate the challenges found within the main case.

5.1 Analysis of the Decision Framework

In the following, the decision framework, as presented in Section 4.2, will be discussed, analyzed and validated.

Two different sets of data are provided during the venturing process at different points in time. The intake form is used to validate the business case during the intake process and gets provided again during the invest-/divest meeting. Further, additional quantitative indicators are presented continuously during the asset life cycle meeting and each invest-/divest meeting. The initial decision to start a venture is taken by the intake committee. After that, every venture in the lab, grow, and harvest phase runs through the same justification process, and asset life cycle committee is responsible for the ongoing validation. The invest-/divest committee serves as a second decision instance and has the final word over additional funding or termination of a venture after any of these steps was proposed by the asset-life cycle committee. The visualization of this process can be seen in Figure 19.

Each quantitative indicator will be evaluated based on the three characteristics of reliability as introduced in Section 2.4.2: accessibility, actionability, auditability. Additionally, the guidelines presented in Section 2.6.3 will be applied to verify the usefulness of currently presented indicators. Finally, the status quo will be analyzed whether all suggested indicator categories are present in the current list of metrics. The indicator categories are listed in Section 2.6.2.

5.1.1 Intake process

The basis for the first decision moment is the filled intake form. As described in Section 4.2, it consists of 72 questions, qualitative but also quantitative. The topics covered by the intake form can be seen in the following table (Qli. = Qualitative / Qnt. = Quantitative):

Qli./Qnt.?	Information
Qli.	General Information
Qli.	Value Proposition
Qli.	Market Information
Qli.	Business model
Qli.	Venture Objectives
Qli.	Feasibility & Risk
Qli.	Compliance & Independence
Qli.	IT Security
Qli.	Third Parties
Qnt.	Profit & Loss Predictions (next four years)
Qnt.	Investment Requirements

Qnt.	Investment Milestones (to unlock)	
Table 32 - Information asked for within intake form		

This information closely resembles a business plan that could be required by an investor to be delivered by an independent startup. Additionally, the intake form requires the answer to very specific questions required by the compliance and regulatory departments of the company.

Filling out the intake form was described during the interviews as difficult and exhaustive, especially for new business ideas, which yet need to be validated. One interviewee described the situation as follows: "Because if you now ask me in idea/lab, what is the revenue potential for [a tool] that has never existed before. What is the ROI? When do we break even? And how much does the development cost? [...] I just don't know yet; this is something we need to test. And for this testing, we need money before we can answer those questions." [PrM3, 13/06/2018].

Currently, the company uses the intake form for all kind of ventures, which are supposed to be on-boarded to the innovation portfolio, despite eventual differences in progress. This lack of discrimination means that an employee with a new idea must answer the same questions as an external partner with a more mature and already existing startup. The author suggests adapting the intake form for different maturity levels to account for different levels of uncertainty surrounding the venture.

As was explained in the literature review in Section 2.4, the lean startup approach follows an effectuation approach. This means that the methodology tries to keep the solution space as broad as possible and narrows down the direction through continuous experimentation during the implementation. Since the solution space is yet to be narrowed down, a multitude of unknown variables exists and asking for specific and detailed answers with regards to these unknowns does not seem to be useful. This deferral of answering specific indicators is in line with research, which suggests that there is no such thing as a perfect business plan (66) because of the limited predictability within the economic and business world (67). Therefore, if the accuracy and reliability of a given answer must be doubted, given the surrounding uncertainty, it is not advisable to spend a significant amount of the limited time and resources on finding detailed answers.

Since interviewees mentioned that the intake decision is taken qualitatively, and the quantitative numbers of the intake form are never reassessed, it seems recommendable to shorten the form and add an adaption to account for different levels of maturity of a venture. Especially for new ideas the inclusion of a P&L, especially to forecast four years and contain detailed information concerning required human resources, is not recommended. Further recommendations can be found in Section 5.4.

5.1.2 Ongoing validation

The ongoing validation of all ventures happens within the asset life cycle committee. If further investments or termination of the venture is proposed by the asset life cycle committee, then the final decision is taken by the invest-/divest committee.

Currently, the following information is presented respectively to each committee (Qli. = Qualitative / Qnt. = Quantitative):

		Presented in	
Information		Asset Life Cycle Committee	Invest-/Divest Committee
Qli.	Value Proposition	No	Yes
Qli.	Market Information	No	Summarized
Qli.	Business model	No	Summarized
Qli.	Feasibility & Risk	No	Summarized
Qnt.	Investment Milestones (to unlock)	No	Yes
Qnt.	Current Financials	Yes	Yes
Qnt.	Current Engagements	Yes	Yes
Qnt.	Current Opportunities	Yes	Yes
Qli.	IT Security Risk Status	Yes	Yes
Qli.	Product Maturity Status	Yes	Yes
Qli.	Run & Maintain status	Yes	Yes
Qli. Background information (only if failing)		Yes	Yes
Qli.	Analysis of failure (only if failing)	Yes	Yes
Qli.	Learnings (only if failing)	Yes	Yes
Qli.	Next steps (only if failing)	Yes	Yes

Table 33 - Information presented during the ongoing validation

The quantitative information consists of information concerning the current financials (asset revenue YTD, consulting revenue YTD, total contracted value YTD, budget spent and received so far), as well as some information concerning the current customer engagement. The following table shows the results of the reliability analysis.

Information	Is the information		
	Accessible?	Actionable?	Auditable?
Asset Revenue YTD	Yes (limited)	No	Yes (limited)
Consulting Revenue YTD	Yes (limited)	No	Yes (limited)
Total Contracted Value YTD	Yes (limited)	No	Yes (limited)
Number of Opportunities	Yes	Yes (limited)	Yes
Number of Engagements	Yes	Yes (limited)	Yes
Investment Budget	Yes	No	Yes (limited)
Investment Spent	Yes	No	Yes (limited)

 Table 34 - Reliability analysis of presented quantitative metrics

One of the critical problems of the status quo is the way in which the numbers get collected. Since the technical systems of the company are not yet configured to track the right indicators, let alone compute the final numbers automatically, the processing alone has a negative influence on the quality of the indicators. The accessibility is often given, but numbers must be manually collected or depend on the delivery through different departments, which makes the process effortful and cumbersome.

Further, the auditability is limited by this process. While the possibility might be there to find the underlying calculations and (potentially) excel sheets of the people involved auditing the

numbers is not easily possible. Data potentially comes out of different systems during different moments in time. It gets processed by different individuals and finally ends in a calculation of the requested number.

The actionability of all presented values should be doubted. As stated in Section 2.4.2, financial and commercial indicators do not fulfil the actionability criteria (9) as they always only show the impact of any strategic decision after it has shown effect, rather than continuously providing an insight into the progress of the impact.

That these limitations exist does not mean that the numbers presented in the past were wrong or inaccurate. Nevertheless, even if we assume that all past calculations were done correctly, the manual labor introduces a higher risk for errors. Second, while the indicators might have a justification to be included and presented, especially if they show the status quo like investment available and investment spent, the lacking actionability of most of the indicators suggests possible improvements through the inclusion of additional indicators.

After analyzing the currently available information, considering the insights from other research, it seems fair to call the current set of metrics, including the gathering process, sub-optimal. This struggle is reflected in the sentiment during the interviews, with interviewees mentioning difficulties to exert control given the information provided fully.

Analyzing the current set of presented information according to the guidelines as presented in Section 2.6.3 leads to the following conclusions:

- The presented set of metrics does not continue any specific metrics focused on the specific strategic objective of the venture. All metrics are related to either return, cost or operations.
- Since actionability is just another word for plausible causality, and the metrics are only financial or commercial, the second guideline is also not fulfilled.
- All metrics are always presented "as is" and not put in relation to any goals, since, as stated in Section 4.3.2.2, currently no baseline exists. While the initial intake form contains some kind of goals, the question of whether it is realistic cannot be answered.
- Since the current gathering process possesses problems, like manual work and no automatic consolidation from different systems, the correctness of the measures might be given, but potentially at risk.

Further, verifying the completeness of the current set of metrics by comparing it with the proposed list of indicators, as found in Section 2.6.2, shows the following:

• Customer

While there are two metrics with regards to the customer (number of engagements, number of opportunities), they are not put in relation to the market and do not address the need-fulfilment or customer behavior in any way.

• Service

No metrics concerning the current quality and development of the service is presented.

• Technical

The technical aspect of the venture is covered, through the information of the IT security risk status, the product maturity status and the run & maintain status.

• Organizational

While the information concerning the dependence is asked within the intake form, it is not presented after the point of formal onboarding.

• **Financial** The financial aspect is covered.

• Value exchange

The value exchange is not covered. Information concerning the internal value exchange could be added, for more mature ventures in the grow or harvest phase.

• Information exchange

The value exchange is not covered. Information concerning the internal information exchange could be added.

• Process alignment

The process alignment is not covered. Information concerning the process alignment could be added, for more mature ventures in the grow or harvest phase.

The analysis shows that the set of metrics does not cover all categories of suggested indicators. It is recommended to evaluate whether the missing elements would deliver an additional degree of control and insight. Since the operational side of the venture is not within the scope of the venture, the question which of these should be added, for the project manager to examine, stays open for further analysis through the company.

The current set of metrics does not fulfil their function, as defined in Section 2.6. The author argues that neither do the metrics help to identify core hinderances or opportunities nor do they provide an understanding for the causality and dynamic with regards to the success of the venture, as they are broad and not specific for the venture.

5.2 Analysis of the Contextual Factors

The analysis of the contextual factors the presentation of the results and respectively contains three sections (5.2.1, 5.2.2, and 5.2.3) validating the results as listed in Section 4.3.

5.2.1 Mindset & Culture

During the analysis of the factors related to mindset and culture, found in Section 4.3.1, it was noticeable that there seems to be a distinct difference in how traditional parts of the company are working in contrast to the new of working. This research found four themes within this category of challenges, which are listed in the following table and discussed below:

		Respect based working
	Current culture	Conservative environment
	(4.3.1.1)	Difficult for new people
		Need to establish innovation function
ure	Differences in working with	Delivering vs Cooperating
ultı	customer	Knowing vs Asking
ž C	(4.3.1.2)	Having vs Searching
et 8 (4.3	Differences in type of work (4.3.1.3)	Clear instructions vs. No instructions
spu		Reactive vs Proactive
Mii		Short time vs. Run & Maintain
		Low margin vs Investing
	Differences in monetization (4.3.1.4)	Short-term vs. Long-term
		Stable business vs. Volatile business
		Different distribution of returns

Table 35 - Analysis of the factors of mindset & culture

There seem to be clear differences in how traditional parts of the company work, in contrast to how the units focused on innovation are operating. These differences are visible with regards to the time horizon of potential returns, as well as the growth potential and magnitude. While consulting services produce certain and stable revenues in the short term, innovation projects and ventures are aimed at the long-term and might only produce uncertain, volatile and smaller returns in the short-term. While some ventures have the potential to achieve a magnitude of revenue that shadows that of traditional consulting services, this seems not to be evident to the broader company.

Since innovation is about exploring new opportunities, potentially in markets and customer segments, which have never been targeted before, the company needs to try out new methodologies and strike new paths. Because of the dynamic, interactive and context dependent (16) nature of innovation, two approaches at two different points in time might not yield the same results, and failure is of the innate characteristics of experimentation. Combining this with the risk-averse and routine-oriented work of professional service companies was rightfully perceived as challenging.

Researches said that agility is a cultural thing and if the culture is not right, it is impossible to implement agile principles (86) effectively. Agility requires the company to be dynamic and

adaptive. The company needs to be able to handle the rapid communication, dynamicity in requirement changes and frequent and fast feedback collection from customers, which lie at the heart of agile methodologies. Quantitative studies found the corporate culture to be a highly correlated coefficient with success (87). Especially a lack of politics within the company, an excellent customer-vendor relationship and the adaptability to change, were factors which were found to be significant when applying agile methods. The legacy mindset and culture, described by the interviewees, goes against these insights and the hinders the venturing success by concentrating effort and resources on managing politics and people.

Already during the transformation of a company, it is crucial to embed agile initiatives into the broader company and establish a collective sense of purpose (88). Whenever the classical world and the new world touch upon each other, friction can arise (29). While general resistance to change and scepticism can be expected to a certain degree, other factors mediate the amount of resistance that needs to be handled. Especially if the change is only top-down driven or if the transition towards the new system is handled ineffectively (29), research found that the transformation will face bigger hurdles. This insight is in line with the experiences described by the interviewees in Section 4.3.1.

Many interviewees commented on the clash of culture while stressing the importance that culture and mindset play when adapting to the new methodologies. As the innovation function is currently semi-isolated from the rest of the business, many interviewees stated that they regularly encounter resistance by colleagues who do not directly work with the innovation team and see it as alien to the core business.

Introducing new methodologies is not easy since agile and lean concepts are novel to most traditional business units. The general methodology is open to interpretation through practitioners. This interpretability means that the methodology can easily be misunderstood and poorly customized implementations might lead to suboptimal results, which in turn give sceptics the feeling of being proven right. This initial setback can in turn lead to a reversion to the old way of working. On the other hand, also excessive enthusiasm, especially in the form of dogmatism, can quickly lead to undesirable outcomes (29). Also, this confirms the statements of the interviewees.

A lack of familiarity with the new methodology within the company, resulting in a lack of commitment and support through commercial units, was found to inhibit the success of the implementation (30) and supports the impressions of the interviewees.

Ideally, a company employs all three mechanisms of creating legitimacy (89). The first mechanism is the so-called identity mechanism, which works towards creating a shared identity within the company and tie together the innovation unit with the rest of the company. Identity mechanisms are things like storytelling, sense giving and collective framing, and are used to convey the idea of which contribution the venture or innovation unit will make to the community and which value it will provide to others. The usage of those tools should happen to mitigate the challenge of colleagues seeing the innovation function as alien to the company. The other two mechanisms are the so-called associative mechanisms and organizational

mechanisms and will be listed in Section 5.2.2. A lack of this legitimacy was found to create challenges (89), as is also described by the interviewees in Section 4.3.1.

The different relationship to the customers and the work in itself are inherent to the differences in exploitation and exploration. This difference is because the two types of work are different in scope, context and focus. Both have their justification to exist within the company, as Section 2.3.1 explained. The challenge of the company in fostering the ambidexterity and understanding within the company is in line with research towards that topic.

As the comparison with relevant literature shows, the cultural issues that the company is facing are not unique or specific to them. Previous research found similar challenges and validates the sentiment of the interviewees, which the cultural environment must adapt to enable innovation instead of hindering it.

The only issue unique to consulting and hour-oriented companies is the difference in monetization. Changing the mindset around the investment from seeing an investment as accepting a little less margin, but being still profitable, to accepting that investments are out of pocket expenses, which might or might not pay off later, might be difficult for companies who are used to having a stable and plannable business model. The different characteristics of these two types of investment, make it necessary to change nevertheless. As Section 2.2 explained, innovation is inherently uncertain and will therefore always be an uncertain investment, with the possibility to succeed or fail. If the company wants to continue to explore new possibilities, the management and the rest of the company must get comfortable with more volatility and different distributions of returns.

The company is currently in transformation, and it will have to understand and facilitate the cultural change as an essential part of the process. The culture mediates the success of the implementation (86). The company must be able to make room for new things and evaluate old commitments when faced with challanges. Extensive politics and the requirement to legitimize and justify themselves might restrain the success chances.

It is equally important for people to not blindly trust the methodology and implement it dogmatically, as it will be required to try and convince sceptics to re-evaluate their perspective. The success of the implementation depends on approaching it pragmatically with a willingness to assess the situation honestly and work together. This problem has shown itself during the interviewees, when commented on a lack of understanding and consequently having to trust the project managers instead of validating the underlying assumptions themselves

5.2.2 Organizational Environment

Besides the challenges that stem from mindset and culture, the results have also shown that the organizational environment plays a prominent role. Some of the factors related to this category are inherent to being a professional service company and will be hard to mitigate. Others are due to the current state of the implementation, with the company still looking for the optimal configuration to embed entrepreneurship within its borders. This research found three themes within this category of challenges, which are listed in the following table and discussed below:

ıment	Being a professional service company (4.3.2.1)	Fewer customers Higher expectations & quality standards The difficult and long sales process High complexity High risk & regulations Independence issue
zational Enviro (4.3.2)	Being in transformation (4.3.2.2)	Insecurity around applying the methodology Suboptimal coordination Lack of common definitions Unaligned software & manual workarounds Communication channels
Organi	Low embedding of entrepreneurship within the organization (4.3.2.3)	The different focus in selection criteria Unaligned KPIs - Individual Unaligned KPIs - Department No dedicated career path No dedicated time Misaligned incentive structure

Table 36 - Analysis of the factors of the organizational environment

The first theme combines challenges arising from KPMG being a professional service company. Many of the requirements and factors are hardly changeable as they are exogenous to the company. Especially the challenges related to regulations and compliance issues are mandated by the policy creating bodies so that the company will have to find a way to deal with these challenges. Potential solutions will be introduced in Section 5.4. Since the lean startup methodology advocates being lean, it is understandable that non-negotiable up-front requirements are suboptimal, as they take up time and resources.

The results from Section 4.3.2.1 suggest that the situation of having fewer customers with potentially higher requirements make the company more afraid in tightly integrating the customers into their development process. Centration around customer issues is, however, an important factor of agile and lean startup methodology, as was already explained in Section 2.4. The goal of the implementation of these methodologies is to increase customer fit and customer satisfaction, both factors which are found to be strongly correlated to the success of a venture. Validating together with a customer should not be seen as damaging the reputation of the company, but, increase the customer-vendor relationship. Which customer to involve should also depend on the form of work that is being down and the approached type of customer. For innovation and exploration, it is useful to focus on the lead users when doing exploration (28). The company can do both, with the business units limiting exposure to their primary users while improving the relationship with the lead users through integrating them tighter into the development efforts and giving them a sense of cooperation and innovation. Nevertheless, not engaging in customer validation is rightfully perceived as a challenge, as it makes the ventures unable to learn through actual feedback to possibly adapt its strategy to the market reality.

The challenges like the complexity of potential solutions, the length of a sales cycle and the high regulatory requirements are inherent to the industry. Research confirms that the current

handling of these challenges is sub-optimal. Acting fast and employing lean and fast decisions processes are found to be highly important and required to reduce the time to deliver and market new solutions (87). Requirements need to be scaled down (87) to reach this speed and problems should be decomposed in a divide-and-conquer fashion. While the high-quality standards, required by the regulatory bodies, cannot be negotiated, it is also important here to adapt to this circumstance. By applying a must-have approach and providing the necessary support from the specialized and shared services to the innovating unit (90), the time-intensive steps could be deferred to a point after the validation so that the resources are only invested once some prove for potential success is established. Otherwise, the required freedom to experiment is too restricted, and communication will possess a significant overhead which slows down development (91).

The results in Section 4.3.2.2 suggest that, while the transformation is taking place, some departments are progressing faster than others, so that the interplay between these parts is increasingly difficult. The two most commonly stated issues were the misalignment of the whole controlling body with regards to definitions and processes, as well as software solutions, which are not yet adapted to the new methodology. The alignment between the parties, especially the funding one, the evaluating one and the operational one is critical to face the challenges related to selecting the right ventures and matching the investments with the risk and return profile that the participants strive for (92). This insight confirms the statements of the interviewees concerning the lack of alignment.

Given these insights, the lack of a consistent and integrated control framework can be said to hamper the innovation efforts. If there is no clarity about which metrics should be used and tracked, mutual control can always only depend on trust towards each other. If the creation and communication of values of metrics depend on manual labor, and if there is no consensus about a realistic baseline, then operational controls will likely hinder, not support, the innovation progress. Operation controls aim at channeling actions within a company in a specific direction and restrict undesired behavior (24). This means that operation controls will restrict innovation if they are not adapted properly as said during the interviews.

This misalignment also extends to the integration and communication channels currently in use. While formal processes to exchange information and knowledge exist, research suggests that formal interfaces between different functions are only conductive for already existing knowledge, while being quite restrictive and costly for the innovation unit to leverage (93). During the interviews it was suggest to bring the integration to a more informal level. The excitement and fun that innovation can produce should be shared and will help engraining innovation into the culture of the company. It will further help to promote a shared values and a common language, which make it easier to create strategic coherence and help to facilitate knowledge exchange and spillover.

As the interviewees stated rightfully, coordinating multiple teams, while keeping internal silos in place like within the case, is found to often lead to difficulties (29). The key is to help the facilitation of strong communication, both internally and externally, to gain attention and

produce supporters and sponsors that help the innovation unit to acquire a leverageable position.

Again, legitimacy is a problem and the other two legitimacy mechanism, as mentioned in Section 5.2.1, find application. The company should employ associative as well as organizational mechanisms to tie the company stronger together (89). This includes both to create organizational ties between the management and the innovation unit, as well as individual ties between employees of different functions. If that can be combined with internal milestones, which the company is willing to celebrate once acquired, then both culture and organizational structure might be better positioned to facilitate shared learning and understanding, which in turn might lead to a higher likelihood of success with regards to innovation. This insight confirms the sentiment of the interviewees and supports the advocates for strengthening the integration through more participatory means.

The last group of challenges within the organizational environment category is related to the low embedding of actual entrepreneurship within the structure of the organization. This group includes potentially misaligned selection criteria when hiring people, but also the missing of dedicated career paths and development opportunities for entrepreneurs, as well as the missing of aligned KPIs and incentives both on individual and team level. All these challenges are supported by past research, as presented in the following.

Entrepreneurs should possess specific characteristics, including risk-taking, proactive, intrinsic motivation, strategic overview, communication skills (71). These are not necessarily qualities which are required for the highly structured and specialized work that a professional service firm typically fulfils. The audit business, for example, is highly reactive and focused on heavily codified work in an attempt to minimize risk. This contrast leads to difficulties in finding the entrepreneurial employees. The company needs to change their job-descriptions used to hire and start looking explicitly for the right people to acquire the right talent for their teams (91).

This potential misconfiguration, due to differences between the old world and the new, also extend to the incentive structures, which interviewees recognized as being sub-optimal. For incentivizing exploitation, the measurement of performance through tangible outputs is preferred, and often dominates the incentive structures of large enterprises. While incentivizing performance motivates the pursuit of pre-specified goals, it possibly discourages the exploration of new possibilities (28). Incentives suitable for exploration are, for example, the celebration of early failures and the achievement of long-term success milestones. Another possibility would be to allow employees to acquire a personal stake in the outcome (91), which was also suggested during the interviews. This step of engaging employees into the ventures helps to keep the personal commitment strong as well as the motivation high and guarantees interest in either success or early failure. Especially celebrating early failures helps to reduce risk aversion and motivates people to take significant risks required to discover new innovation. Further details to mitigate this challenge can be found in Section 5.4.4.

This mismatch in incentives also exists on the team and department level, as was mentioned multiple times during the interviews. The current performance evaluation with traditional

indicators leads to internal competition and denial of access to essential resources. This circumstance implies that ventures cannot leverage the support of their parent company. To change this situation, the suggestion was made to raise the integration and enable collaboration between different teams, which also means using KPIs suitable for cooperation. When analyzing the collaboration between competing companies, research speaks of the term coopetition (94) to describe cooperative competition. Through cooperation even competing firms can profit from becoming interconnected and cooperating with their competitors (95). The connection and shared benefit for internally (possibly competing) departments are higher than for competing companies, as both share the benefits of their work so that the coopetition model should be applicable here. The strategy should be to create win-win situations, in which the collaboration for shared prosperity is incentivized.

When looking at the component of dedicated time and resources, the opinions, both in academia as well as during the interviews, are mixed. While most interviewees said that there is a lack of both and that an improvement would include the creation of dedicated resources (e.g. in the form of lump sums) as well as time (e.g. through a 10% innovation rule), others mentioned that an employee, who wants to be innovative and entrepreneurial, can find both time as well as resources. Research suggests that it is a fallacy to believe that dedicated time can be put aside to be creative and innovate (92). An alternative to providing broad assistance to everyone is to position the department to better capture and refine ideas which pop up (92). Research also speaks about bricolage (96), a term which describes working with whatever set of tools is at hand and leveraging the possibility to reuse and recombine components. While initially seen as a tool to overcome resource constraints, it was found that it additionally positively influence opportunity identification and learning (96). These points seem to underline what was said by advocates of the status quo and against additional integration of dedicated time. Since most interviewees shared the sentiment that there is not enough dedicated time for innovation projects, this situation should be reassessed internally. It would be advisable, however, to pay attention to the insights from academia and be careful with changes.

In summary, research supports the sentiment of the interviewees that the current configuration seems to be a misalignment regarding KPIs and incentives, both on an individual as well as a unit level. Potentially, not enough time is given to employees to innovate outside of the pressure of working productively on client engagements. The optimal configuration will have to be considered, but it should address the points expressed by the majority, namely: misaligned KPIs, a lack of available time, a lack of a suitable career path and incentive structure. The fact remains that there is no knowing beforehand of how the perfect configuration should look like. Due to the nature of innovation and the fact, that companies possess unique traits that need to be adhered to, it is only understandable that the right configuration takes time. As stated during the literature review in Section 2.3, a company needs to be dynamic and ambidextrous to account for unforeseeable eventualities.

5.2.3 Lean Startup Methodology

thod	Lack of familiarity with the	General unfamiliarity
	methodology within the	Not being used to kill projects which are failing
p Me .3)	company (4.3.3.1)	Using vanity metrics
Lean Startu (4.3	Not following the validated learning method (4.3.3.2)	Hesitance to approach customers
		Not asking the customers
		No re-verification of assumptions
		Shaping the future themselves

Table 37 - Analysis of the factors of the lean startup method

The last category of challenges is directly related to the implementation of the lean startup methodology. This research found two themes within this category of challenges, which are listed in the following table and discussed below:

The first theme, which already showed itself in the previous two sections, is the general lack of familiarity with the methodology itself. The interviewees rightfully stated that it creates friction and uncertainty surrounding the whole innovation unit. A big part of Eric Ries' advice in his second book "The Startup Way" (97) focuses on the education of people, to make sure that everybody understands the implications and can follow the methodology correctly. Education not only benefits the individuals working on the project but also helps to promote the integration, helping to create a common language and shared set of values. Only if the proper training and preparation are provided to the employees, can an innovation initiative be successful (6).

This unfamiliarity also leads to the company struggling to kill projects, which are failing. It is crucial that failure is adequately defined so that failure becomes something celebration worthy. This research uses the following definition, initially formulated by Bennett and Park: "Failure describes a situation in which the best decision possible was made based on the best information available and, in spite of the mart allocation of resources and effort, a project did not deliver on the promise" (92)[p.569]. When failure is perceived like this, it becomes understandable why it is desirable to admit failure. Per the definition above, there is no alternative path towards success anymore, and spending resources on trying to change this are therefore rightfully perceived as suboptimal. Allowing early failure is not only about the financial component and the sunk cost fallacy, which often gets mentioned, but also because of compassion towards the failing individual and team. With increased effort and time spent, the psychological investment of the participants rises and can lead to higher pain when the failure comes.

Further, the lack of familiarity leads to stakeholders evaluating the ventures through the lens of traditional operational controls. Operating controls have a significant impact on the success of an innovation unit and can significantly hinder the innovativeness if they are misconfigured (6). As listed in Section 2.6.3, operational controls need to be aligned with strategic objectives, should provide plausible causality with relation to what wants to be achieved, possess a realistic

and clear goal and are required to be measured correctly. Only then can they adequately contribute to the control of an innovation initiative, by helping to identify challenges and opportunities and create a shared understanding of the causality and dynamics behind the venture (7). Metrics which do not live up to these requirements, will be sub-optimal as a decision basis and make it challenging to find corrective actions while developing the business.

Suboptimal operating controls bear another implication, which could be seen in Section 5.2. Since the definition of reliability applied by this paper depends on three different characteristics, namely accessibility, actionability, auditability, it is essential to examine this part also under this perspective. Accessibility and auditability both require for metrics to be computed in a safe, easy and comprehensible way. Since parts of the metrics within the company are the result of manual work, accompanied with waiting periods, many of them will fail the reliability check based on this factor. This circumstance means that an issue is not only the choice of a metrics but also the origin and retrieval.

The last theme stems from the supposedly suboptimal usage of the validated learning model, a lack of customer validation and the simultaneous wish to increase the number of facilitated ventures to leverage the strength of the methodology. While examining the role of experimentation, Bojovic et al. (98) found that experimentation fulfils multiple roles which can be beneficial to a venture. The most predominant insight is that experimentation provides an excellent opportunity to engage with the environment and obtain additional knowledge to validate one's assumptions and hypothesis further. Additionally, however, it facilitates the promotion of a shared understanding with both the customers as well as the stakeholders, potentially signing to potential customers the availability of new and exciting products and services, as well convincing stakeholders with hard numbers over the viability of a venture.

Researcher found continuous experimentation to be a critical success factor and stated that it helps to reduce the development efforts and support the decision making through the provision through data. Further, it helps to facilitate the learning process through deeper customer insight and shorter and more effective retrospectives (99). While experimentation is To acquire the right talent for their teams ital to improve the learning process (91), it is critical to do it with the right questions in mind and keep the focus on the customer perspective and value growth (87). Research suggests that is a benefit in crossing planning and learning processes (32). These insights support the sentiment of the interviewees to focus stronger on embedding the validated learning approach instead of shaping the future themselves.

5.3 Analysis of Validation Cases

To further validate the generalizability of the findings of the main case, additional interviews with two banks were conducted. The results of these interviews were presented in Section 4.4. The actual validation was done analog to the coding tree (see Table 11), by comparing statements of interviewees of the main case with statements of the interviewees of the validation cases.

An overview of this comparison can be found in the appendix in A and B. The tables show the codification tree and then list per interviewee whether an element of the tree was commented

within the interviewee and whether it is in line with statements from the main case. If a challenge exists within the main case but is not shared with the respective validation case, the table indicates that the challenge was not commented on.

5.3.1 Analysis of Bank A

This section contains the comparison of the main case to Bank A. An overview of the comparison can be found in Appendix A (Table 44). While not all the challenges were commented on within the interviewees, the ones which were discussed share the sentiment of the main case. The comparison will be presented per theme as found within the codification tree.

Like the stakeholder of the main case, the interviewees from Bank A share the sentiment that challenges arise from the legacy mindset and the predominant culture within the company. The individual challenges are comparable, and both cases speak about problems due to a conservative work environment, differences in the type of work and a short-term focus of the business where innovation is directed at the long term. In contrast to the main case, Bank A seems to struggle less with making investments as investments have always been part of the core business. This difference is because of the difference in work between a professional service company, which sells consulting services to other companies, and a bank, which offers services and maintains digital and customer-facing solutions. The characteristics of the consulting business, that the accounting view only looks at yearly timeframes and that investments are seen as accepting lower margins instead of actual expenses, do not translate to banks.

Further, the challenges with the organizational environment find confirmation through the interviews with Bank A. Differences arise mostly from differences between the business of both companies. Whereas the company of the main case mainly conducts B2B, Bank A does both B2B and B2C. Other than within the main case, the interviewed portfolio manager sees B2B as an easement rather than a challenge. Where the main case speaks about challenges due to fewer customers, higher expectations and a more difficult sales process, the portfolio manager stated that business between businesses is more straightforward. As reasons, he lists that companies naturally trust each other, that there is more money to be made and that long-term contracts between two big entities bring more certainty than selling to individual customer which benefit from strong customer protection. Regarding the low embedding of the entrepreneurship within the company, however, the interviewees of Bank A confirm all points. This confirmation means that like within the main case the interviewees see challenges due to unaligned KPIs, no dedicated time and misaligned incentive structures.

Lastly, also with regards to challenges due to the implementation of the lean startup methodology the interviews support the findings from the main case. Like within the main case the interviewees speak about challenges due to the unfamiliarity of the broader company with the methodology. The unfamiliarity leads to struggles when deciding whether to kill failing projects, as well as reliance on vanity metrics and deviations and inconsistencies when applying the validated learning approach.

In summary, the statements of the two interviewees mostly support and confirm the statements of the main case. Differences due to the different business models of a consulting company in contrast to a bank exist but do not contradict the results of the main case.

5.3.2 Analysis of Bank B

This section contains the comparison of the main case to Bank B. An overview of the comparison can be found in Appendix B (Table 45). While not all the challenges were commented on within the validation, the ones which were discussed share the sentiment of the main case. The comparison will be presented per theme as found within the codification tree.

All interviewees within Bank B spoke about challenges arising from a difference in mindset and culture between the traditional line of business and innovation projects. Especially the differences in the type of work and the working with the customer lead to challenges, as it was also found for the main case. Like Bank A also Bank B differs from the main case in that investments are established practice, as both companies have been investing in projects regularly.

As the main case, Bank B also sees difficulties in navigating the highly regulated environment. Further, the transformation and especially insecurity because of the unfamiliarity with the methodology confirms challenges listed in the main case. In contrast to the main case and Bank A, interviewees of Bank B are less concerned with the KPIs of individual colleagues, which seem to already account for innovation. Nevertheless, interviewees stated that the incentive structure should be evaluated and adapted to incentivize innovativeness.

Especially the challenges arising from the application of the methodology itself find confirmation in the case of Bank B. All interviewees commented on the problem due to a general unfamiliarity and a lack of trust in the validated learning method. Other than the main case the interviewees stated that the company has no problem with killing failing projects.

In total also the results of the interviews with Bank B confirm and support the results of the main case. Like Bank A Bank B differs from the main case due to the different business models. Nevertheless, as for Bank A, these differences did not lead to contradictory findings in contrast to the main case.

5.3.3 Summary of the Analysis

As it was expected and described in Section 3.2 some differences in the results were found, due to the difference in the business model of a bank and a professional service or consulting company. This difference mainly concerns the different investment behavior which is a unique challenge of the main case, or the difficulties related to being purely B2B focused, which is not the case for both banks.

Nevertheless, the interviews confirm most of the results of the main case and support the validity of this research.

5.4 Managerial Recommendations

In the following, potential improvements to the status quo will be presented. These improvements combine suggestions stated by the interviewees, presented in Section 4.3.4, with the results from the analysis and validation, presented in Section 5.1 and Section 5.2:

	Leaner and consistent controlling framework (5.4.1)	Must-have basis for information requirements
		Focus on actionable metrics
		Consistent alignment between all parties
		Defer quality requirements to after validation
		Archetypes of innovation
		Automation of generation and flow of metrics
		Progressive increase of control
	Embed the validated learning methodology (5.4.2)	Focus on learning
		Focus on customer validation
vements		Develop a baseline for metrics
		Develop stronger market awareness
		Start more ventures
		Continuous experimentation
pro	Dynamic & ambidextrous innovation function (5.4.3)	More autonomy for the innovation function
Im] (5.4		Dedicated controlling unit
ed (Flexible and adaptive governance structure
gest		Free selection of employees
3gu		Distinguish between types of innovation
Ś		Allow service diversification
	Empower the startup/idea phase (5.4.4)	Utilizing low-code platforms
		Decomposing problems (and solutions)
		Using its brand and network
		Lump-sum financing
	Strengthen the integration (5.4.5)	Dedicated time for innovation
		Common platform
		Embed ventures in company through association
		(units, strategy)
		Improve communication and knowledge spillover
		Adapt employment configuration

Table 38 - Overview over the suggested improvements

5.4.1 Leaner and consistent controlling framework

These suggestions directly relate to the identified opportunities presented in Section 4.3.4.1.

	Must-have basis for information requirements
	Focus on actionable metrics
Leaner and consistent	Consistent alignment between all parties
controlling framework	Archetypes of innovation
	Automation of generation and flow of metrics
	Progressive increase of control

Table 39 - Overview of measures concerning a leaner and consistent controlling framework

The first opportunity lies in applying a leaner controlling approach. While the overall decision process is quite lean, especially the intake form was found to be too extensive and ill-suited for new ideas which are yet to be validated. Further, the during the committee meetings provided metrics are not satisfactory, as the analysis in Section 5.1 shows. Generally, the controlling should work on a must-have basis and be adapted to the reality of each venture.

To account for this uncertainty around new ventures, instead of applying execution oriented processes and controls, as it is preferred for exploitation, the innovation function should employ search oriented processes that help to identify the right next action, as required for effectuation (28). Research into effectuation and causation has also shown, that until the predictability of the future reaches >75%, effectuation outperforms causation in both risky and uncertain contexts (19). This is a valuable insight and justifies making the controlling framework progressive by nature, reevaluating the status quo and introducing additional causational dynamics and controls as ventures attain a more precise shape and scope. The controlling framework should progressively tighten, and require answers when they are mandatory and can realistically be answered.

Multiple interviewees expressed a feeling of dissatisfaction with regards to the control they feel over lean ventures. This feeling of lack of control might be addressed through an increased focus on actionable metrics, which seem to be lacking at the moment. Furthermore, by facilitating external funding of projects, and applying a phased funding process, additional risk and uncertainty could be taken out of the process.

One other measure, which could mitigate many of the challenges listed above and decrease the amount of friction within the process, would be the definition of a consistent control framework. Even though that the company is in transformation and still learning, efforts should be centrally coordinated to enable mutual understanding and knowledge sharing. Defining a consistent framework could come with the creation of a dedicated controlling unit, responsible solely for handling the innovation units. This change could minimize the burden of legacy processes and metrics focused on traditional exploitive processes.

To support the onboarding process, controlling units like IT-security, risk or compliance departments, should simplify and support the requirements with regards to regulations and risk. As described in Section 4.2 and Section 5.1, the high amount of specific questions, which must be answered in the beginning, are hindering. First, initial validation might already result in the termination of the initiative if no customer is interested. Second, since answers will likely change throughout the way, it is doubtful that spending too much time on answering these questions is productive. The risk of extensive waste within the process is likely higher than the risk of pushing forward an initiative, which will not pass regulatory and compliance issues.

One possible solution for addressing the waste surrounding the regulatory requirements would be the definition of archetypes of solutions for usage as a proxy in the earlier phases of the process. Possible archetypes could parallel types of technical solutions, like SaaS, PaaS, or onetime products. Regulatory questions could be answered on the level of an archetype, and new ventures initially get classified based on their corresponding technology with detailed
information added as soon as available. This step would support the clarity for participating stakeholders, as this would allow defining understandable and straightforward categories and criteria definitions. For example, the traffic light indicators, as said in Section 4.3.4.1, should be connected to clear expectations and combined with the learning through the validated learning.

Finally, this should be combined with the centralization and automation of both the computation as well as the transport of data, as this would solve a big issue and enable the different participants to look at the same numbers continuously. It would also mitigate the reliability issues as described in Section 5.1.2.

5.4.2 Embed the validated learning methodology

These suggestions directly relate to the identified opportunities presented in Section 4.3.4.2.

	Focus on learning
	Focus on customer validation
Embed the validated	Develop a baseline for metrics
learning methodology	Develop stronger market awareness
	Start more ventures
	Continuous experimentation
F 11 (0 0 1	

 Table 40 - Overview of measures concerning the validated learning methodology

Validated learning is one of the centrepieces of the lean startup methodology, as described in Section 2.4.2. Proper implementation of the methodology combined with a clear baseline, actionable metrics and continuous experimentation is necessary. Since the company seems to struggle with trusting and implementing the methodology, it is advisable to strengthen the implementation.

Clarifying the data points and automating the flow of data and information within the company will enable the application of continuous experimentation. Employing continuous experimentation means that stakeholder, and especially idea giver and project manager, should start formulating explicit assumptions and hypothesizes. This step is important to be able to pick the right numbers and metrics and enable the company to develop a baseline for both current and future projects to learn and orient themselves towards to. Prototyping and idea validation are common and attractive activities for corporate venturing (90) and should be an integral part of the venturing process. Only a baseline will allow control and enable the accurate judgement of the progress of any given venture.

The critical issue, when picking the right numbers, is to adhere to the reliability requirements as introduced in Section 2.6. Measuring in innovation becomes a form of art since many of the traditionally applied quantitative measures do not work anymore (92). The implementation of continuous experimentation can help to mitigate this issue.

The focus on customer validation, both qualitatively but also quantitatively, should further be strengthened. Qualitatively could mean, for example, through the embedding of direct quotes of the excited customer to advocate for the venture. Quantitatively, on the other hand, could mean continuous customer behaviour data, life-feed from the marketing and sales channels.

The learning process should embed a stronger market awareness. It is not only relevant to prove demand, but also supply needs to be validated to create an accurate market understanding.

While looking at the actual performance of corporate venture initiatives, research found that experience in venturing does not significantly raise the probability of success (100). The direct implication that the researcher drew was: "An implication of this finding is that firms with more venturing successes may not possess any particular venturing-related proficiency relative to other firms; they simply engage in more venturing engagements" (100)[p.464]. This insight also applies in the context of this case and supports launching more ventures.

5.4.3 Dynamic innovation function

These suggestions directly relate to the identified opportunities presented in Section 4.3.4.3.

	More autonomy for the innovation function			
	Dedicated controlling unit			
Dynamic & ambidextrous	Flexible and adaptive governance structure			
innovation function	Free selection of employees			
	Distinguish between types of innovation			
	Allow service diversification			

Table 41 - Overview of measures concerning a dynamic & ambidextrous innovation function

Multiple interviewees suggested that more autonomy should be given to the innovation function. This freedom and trust are required to be able to experiment and pivot, and facilitate learning and innovation efforts. By providing more autonomy and resources to the innovation units for applying their decision-making processes, it would be possible to improve and speed up the learning and development process (91). Enabling this means getting top management buy-in to secure budgets and resources and secure the unit against strategic changes and enabling the speeding up of the development processes by attaining the permission to break the rules and employ fast iterative adaptions of wasteful processes. The innovation function should have planning autonomy, operations autonomy and operations independence (100). Access to strategic assets should be provided in the initial phases. To mitigate the risk of lacking direction, they suggest focussing on goal clarity of the venture, which they found to be strongly predictive for success, as well as asking ventures to demonstrate learning capabilities.

Additionally, separating the controls and processes, applied for the innovation projects, can help the company to better tackle the contractionary logics of both exploration as well as exploitation. A dedicated unit within the controlling department, as suggested in 5.4.1, could help the company to achieve the ambidexterity and dynamism, which is necessary for handling the dichotomy of exploration and exploitation.

Part of mitigating these issues could be to allow the innovation function to act with a higher degree of independence and the possibility for service diversification. Part of the assumption of doing innovation, especially with the lean startup methodology, is that one does not know where the next opportunity will be. By letting the innovation run looser, the company could reach a state of ambidexterity which utilizes resources and assets, which currently are not tapped into. Additionally, to the notion of ambidexterity of Section 2.3.1, research speaks of so-

called dynamic ambidexterity which can help companies to foster success in both exploitation and exploration. Dynamic ambidexterity in this context means the ability to house multiple organizational structures within the same company (= ambidexterity) and allowing the dynamic adaption to the reality in which the business has to navigate, without requiring too strict adherence to formal processes (= dynamism). Diversifying not only the offering but also the portfolio of applied processes and skills can help the company to better adapt to changing requirements. Relevant research said: "Diversification is not just a matter of increasing market power or managerial self-aggrandizement; it is, ideally, the product of (boundedly rational) strategic analysis that balances (present and potential) capabilities and (perceived and calibrated) opportunities." (50)[p.213].

Furthermore, the innovation function should have the possibility to pick employees freely. Multiple interviewees have stressed the importance that the people part play. One interviewee even said, being asked what the most important factor is: "That is, who is doing it. So basically, what team or what entrepreneurs are driving this concept." [PrM2, 18/05/2018]. Acknowledging this fact and improving the selection process might prove fruitful for acquiring people with an entrepreneurial mindset to strengthen the team.

Serving innovations directed at Horizon 2 in contrast to Horizon 3 with the same process parallels the tensions of exploitation and exploration with the same set of tools. As can be seen in Section 2.2.2 and Section 2.2.6, different types of innovations possess different levels of certainty and should, therefore, be handled with a process more or less dependent on respectively planning and execution or searching and learning oriented processes. This conscious separation of Horizon 2 and 3 ventures help to fight dogmatism and will enable the department to choose the right tools in the right situation.

Part of allowing the innovation function to act independently should be enabling the unit to diversify the current portfolio with regards to targeted clients and delivered solutions. Exploration means that the innovation function, at least potentially, does new things with new clients. Moreover, since part of the assumption of doing innovation, especially also the lean startup methodology, is that one does not know beforehand where the next opportunity will be, the company should account for the fact that the next significant opportunity lies outside the scope of current direction.

5.4.4 Empower the startup/idea phase

These suggestions directly relate to the identified opportunities presented in Section 4.3.4.4.

Empower the startup/idea phase	Utilizing low-code platforms Decomposing problems (and solutions) Using its brand and network
	Lump-sum financing
T 11 (2 0 :	

Table 42 - Overview of measures concerning empowering the startup/idea phase

Empowering the startup/idea phase closely aligns with the proposed improvements in Section 5.4.1. Improving the controlling framework, making it leaner and consistent, can be seen as a prerequisite for strengthening the venture validation during the startup/idea phase.

As described in Section 5.4.2, enabling a higher number of ventures is advisable. This increasing should, however, not lead to pushing many ventures through the idea phase without a proper business case, or an entrepreneurial team behind it. This suggestion aligns with insights introduced in Section 5.2.2, that bricolage can be a source of creativity and that the innovation function should focus on capturing good ideas instead of broadly providing support.

Nevertheless, it is worthwhile to evaluate what exactly constitutes as too extensive support and what counts as unnecessary hurdles. Focusing too much on regulatory and security requirements could distract from sharpening the idea, which should stand in the foreground. Giving employees the right tools to proactively experiment and validated their ideas helps to let ideas mature before they need to be picked up by the dedicated innovation unit. This empowerement of employees would also help to reduce costs with regards to external partners. Employing an external software design company is costly, and whatever can be done in-house by employees, who also contribute to the business case behind the application, should be done in-house.

Two improvements could address this issue. First, by providing a technical platform for the creation of simple solutions, demos and MVPs, the issue of compliance and risk could be mitigated. Validating requirements on the platform level will automatically extend to new applications build on top. The usage of one of this platform could then, secondly, be combined with low-code software, which allows non-specialists to create demos and MVPs within a what-you-see-is-what-you-get fashion, i.e. a simple and graphical editor for the creation. This software would allow everybody to create tangible outputs according to his or her vision, without relying on external help or creating any additional cost. Providing a platform and low-code capabilities then enable the company to discriminate less between ideas, and enable more ventures overall.

To mitigate the problem that many problems of clients are potentially too complex to be handled in an agile way, the company should rely on decomposing solutions into smaller packages. Following a divide-and-conquer strategy will help idea givers to distil the fundamental assumptions and hypothesizes which they have, and create solutions which can be packaged and tested individually.

At the same time, the company should not shy away from using its brand. There is an enormous leverage potential from the confidence people have in the brand. Therefore, the usage of the vast network of contacts should be increased, enabling insightful customer validation. Leveraging the brand and knowledge base, as well as having access to the network of existing customers and experts is a critical enabler to facilitate innovation in large enterprises (91) and one of the reasons why, in theory, internal startups should potentially have an advantage over independent ventures (22). Sales to existing customers through the business units was described by one interviewee as "one of the most important sales channels" [C2, 29/05/2018]. Moreover, while startups struggle to get in contact with customers, the company can rely on their existing network.

Finally, one interviewee suggested the use of lump sums to allow teams to make the required purchases. This provision of unconditional funding should be combined with phased resource provision, so to reduce the risk in empowering more ideas. Through lump sums, the accountability of responsible entrepreneurs would be increased while simultaneously giving more freedom and independence to experiment. When this is combined with funding in phases dependent on milestones, potentially independent of yearly budgeting processes, the risk of overspending could be reduced while also accounting for the fact that fast-growing initiatives will need new money quicker.

5.4.5 Strengthen the integration

These suggestions directly relate to the identified opportunities presented in Section 4.3.4.5. While strengthening the integration means strengthening synergies, shared learning and communication, it does not mean embedding the innovation stronger within the business in a formal fashion. The integration which is meant here is not meant to contradict to further independence described in Section 5.4.3. The goal should be to enable coopetition (cooperative competition) instead of pure competition between teams.

Strengthen the integration	Dedicated time for innovation Common platform Embed ventures in the company through association (units, strategy) Improve communication and knowledge spillover Adapt employment configuration				
Table (2 Overview of measures concerning strongthening the integration					

Table 43 - Overview of measures concerning strengthening the integration

Currently, teams seem to resist the cooperation with the innovation unit, because ostensibly there is no shared benefit for them. This comes, on the one hand, due to misaligned KPIs and incentive structures as described in 5.2.2 and 5.4.1., and, on the other hand, because the other units do not readily see the value behind the ventures and see it as a separate unit.

To help the innovation unit gather the necessary resources and maximize their likelihood to succeed they will be required to continue legitimizing themselves. Once legitimacy is improved, and the larger company develops a familiarity with the methodology, they will able to bypass corporate barriers and create new ways to use the extensive support network, which is undoubtful there, as well as gaining access to the corporates' shared and commercial services to work in a cooperative manner and adapt the processes for efficiency (90). Generally, it is important to embed the innovation initiative into the self-image of the company, to make it part of the bigger picture (88). To reach this integration, the company should focus on training and prepare individuals throughout the organization to create a common language and shared values.

To further improve the communication and increase the knowledge transfer and spillover, it is advisable to start giving a demo- and show days for ventures. Also, mobile microlearning, as suggested by one interviewee, could help. The idea is to share tangible insights and bring the colleagues in contact with the innovation unit. This participation will help ingrain innovation into the culture and help mitigate a lot of the previously described issues.

Another component, which could see improvement, is the integration of the innovation ventures into the bigger context of the company. Interviewees mentioned difficulties in relating ventures to existing departments, the market portfolio or the company strategy. Relating ventures to these dimensions will allow everybody to understand how ventures might be exiting for his or her work. This step will generate interest, benevolence and support the innovation function.

Ultimately, the company should make sure to reassess its employment and incentive configuration, as described in 5.2.2. The departments which focus on operational excellence should be treated differently than the departments which focus on innovation and entrepreneurship. KPIs should be altered to account for innovativeness of both individuals as well as departments and units. Currently, regarding KPIs, innovation might cannibalize the performance reviews of established and traditional departments. This dynamic needs to be changed to enable a state of coopetition (94), and enable working together efficiently.

While the challenges stated above could be seen as a lack of central power of one stakeholder forcing compliance from all other departments, the sentiment whether this is the case or not differed between the interviewees. While a centralization and strengthening of the communication and knowledge-transfer were unanimously shared, the question whether this should also result in a more centralized organigram is still up for debate.

6 Conclusion & Outlook

This chapter concludes this thesis and starts by answering the main research questions defined in Section 1.2. Further, the validity and limitations of this thesis will be discussed. Finally, a conclusion is drawn, and a possible outlook, as well as inspiration for further research, will be given.

6.1 Answer to the Research Question

This master thesis identified guiding principles and recommendations to enable an efficient design of the venturing process, which the large enterprise employs to steer their internal lean ventures. The goal was to enable large enterprises to control and steer their venturing efforts effectively and maximize the success of their process. In the following, the results of this analysis will be presented.

While the research design initially focused on analyzing the formal decision framework within the venturing process, the case showed that additionally factors influence the success of the venturing process stemming from the context of the company. These factors are the culture and mindset of the company, the organizational environment and the implementation of the lean startup methodology. To account for this fact the conceptual model, previously presented in Section 2.7 in Figure 17, was altered as follows:



Figure 22 - Updated conceptual model

The main research question, which was introduced in Section 1.2 and guided this research, is:

Central Research Question

How should the venturing process for internal lean ventures be designed to facilitate the success of these ventures?

The answer to this question consists of two parts: the insights from the evaluation of the formal venturing process and the decision framework, as well as the insights from analyzing the context in which both are embedded. Therefore, the answer in the following paragraphs will also be done in two parts in analogy to the conceptual model in Figure 22. First, the answer related to the venturing process and the decision process will be presented (represented through the inner box within the model). Second, the three mediating factor categories will be presented (represented through the three boxes, below the venturing process).

When designing a venturing process and its decision framework, five recommendations were identified to improve the efficiency and success. These recommendations are discussed below. The detailed analysis and deduction of these recommendations can be found in Chapter 5, with the validation of the decision framework being presented in Section 5.1 and the recommendations introduced in Section 5.4.

First, the large enterprise should focus on keeping their controlling and decision framework both lean and consistent. This includes introducing information requirements on a must-have basis and deferring quality requirements until after initial customer validation. This is done because resources should not be spent on unattractive ideas. To enable cooperation between stakeholders, all participating parties need to be aligned when designing the process. If the company does not achieve this alignment, different stakeholders will have different information and might face difficulties in understanding each other. Moreover, the company should employ reliable and especially actionable metrics for the operational control and validation of the ventures. The usage of classical controlling tools and metrics can increase in the later phases of the venture life cycle. The company should employ automation of data gathering and distribution as much as possible. This digitization supports, on the one hand, the reliability criteria and can even be seen as a prerequisite to fulfilling them, and, on the other hand, allow the participants to focus on the choice of suitable metrics rather than spending time on the data gathering process itself. More details can be found in Section 5.4.1.

Second, the venturing process should embed the validated learning methodology. Focusing on learning, customer validation and actionable metrics will allow the company to mitigate the uncertainty surrounding innovation. The company needs to support the learning through the development of a guiding baseline to put gathered metrics into perspective and combine the customer feedback with a strong market awareness to not only proof traction but also a lack of supply. Finally, this learning should be accompanied by starting more ventures to effectively spot new opportunities and continuously experiment to validate the assumptions on which each venture is founded. More details can be found in Section 5.4.2.

Third, an effective innovation function must be dynamic and ambidextrous. Achieving these two characteristics requires the enterprise to enable participating stakeholders to adapt their governance structure. A dedicated controlling unit can help freeing the innovation function from legacy processes and requirements hampering the venturing success. The innovation unit should have the freedom to choose their employees to acquire the required talent. Finally, the venturing process should be flexible enough to account for the characteristics of different ideas, which might differ in terms of radicality and applicable knowledge. More details can be found in Section 5.4.3.

Fourth, enabling more ventures and making the process financially feasible requires the company to provide tools that support the startup/idea phase. By utilizing technological platforms and low-code software and giving employees space to innovate in form of resources and time, the individuals within the company can be empowered to do initial prototyping and validation themselves. These tools help to save cost by lowering reliance on external partners. By decomposing ideas into their constituents and avoiding complex solutions the company can effectively verify assumptions and develop a thorough understanding of the value proposition behind an individual venture. To further support the startup/idea phase, the company should leverage its brand and customer network. More details can be found in Section 5.4.4.

Fifth and last, innovation can arise everywhere in the company and therefore it's important to strengthen the integration of innovation within the company. Common communication platforms like demo days and cross-functional standups help the firm to share learnings and create a shared language and values. Associating ventures with the business strategy as well as the different departments and target markets help individual employees to identify ventures interesting to them. Ultimately, the employment configuration regarding KPIs and incentives should be adapted to foster innovativeness. More details can be found in Section 5.4.5.

Besides these points, which directly address the venturing process and the decision framework as such, contextual factors were found to mediate the success of the venturing process within the company independent of the decision process itself. The detailed analysis can be found in Section 5.2. Factors were consolidated into the following three categories: mindset & culture; organizational environment; implementation of the lean startup methodology.

First, the company's mindset and culture have a strong influence on the acceptance of the innovation function and its possibility to autonomously and freely take decisions based on the best available information. Having the need to justify oneself or being faced with a lack of understanding by (potentially) dominant third parties hampers the innovation function in its goal to achieve ambidexterity and fit to the unique challenges it faces. Since the logic behind exploitation and exploration are different, also the approach to either needs to differ.

Second, the organizational environment of a company influences the freedom and motivation of individual employees to participate in innovation function and contribute new ideas and creativity. While some characteristics will be inherent to the company's industry, others can be adapted and are part of the organizational configuration chosen by the leadership. The company

should consciously and deliberately analyze which behavior it wants to incentivize or restrict and adapt its configuration to this reality.

Third, blindly following the lean startup methodology might not yield optimal results since the implementation needs to be account for the specific characteristics of the company. Nevertheless, the initial implementation of the methodology should keep the core elements and only deviate once initial experience and insights were gained. Directly implementing the methodology selectively might lead to sub-optimal results, since changes might be based on unjustified feelings rather than validated assumptions.

6.2 Validity & Limitations

The thesis was initiated to study how large enterprises can control and steer their internal lean venturing efforts effectively. The research was designed as a case study and conducted during an internship spanning a period of 6 months. The analysis of the results in Section 5 has shown that the company constituting the case is faced with multiple challenges, which are in line with previous research conducted on the topic. In the following the limitations of this research will be addressed.

First, while particular attention was paid to acquiring an adequate sample size and using triangulation to verify results, the company in question possesses additional departments and units, which were not involved in the research. Restricting the scope was necessary due to time and resource constraints. This means that all interviewees from the main case work in the advisory part of the company.

Second, while the analysis of the stakeholders resulted in the identification of five categories (leadership, controlling, other functional departments, portfolio management, project management), this research focused mostly on four of them. The functional departments besides controlling were not part of the analysis. This choice was taken due to the time constraint and the focus on the decision framework, in which these departments do not participate. Further research including additional commercial departments could provide additional insights.

Third, the choice of using semi-structured interviews for gathering data enabled the research to explore the case freely. By asking open-ended questions the author could harness the knowledge possessed by interviewees without limiting the scope too much beforehand. However, this choice restricts the comparability of the research. Using a more structured approach, for example a standardized survey, could help to generate a more granular understanding of the challenges at hand and allow an easy comparison between different enterprises. For example, the coding tree could be transformed in a questioner to gather feedback from all interviewees about all topics.

Fourth, while the research tries to account for the individual characteristics of the company, generating a detailed understanding of all differences would require additional studies within other industries. The comparison to the literature has, however, shown that many results can

be transferred from, for example, the software industry. Further generalizability should be evaluated individually.

Fifth, as described in Section 4.3.2.2, the company was still going through the transformation phase. Therefore, this research needs to be seen as an analysis of the current implementation. Due to this research being a master thesis, the time constraints did not allow to validate longitudinal effects or potential actions to correct hinderances. While the findings find satisfying backing through the validation, it would be interesting to verify them in a more mature implementation.

Finally, the suggested improvements result from combining the suggestions of the interviewees with insights gained through the literature. The main objective of this research was to analyze the status quo. While every recommendation stem from the empirical study, follows a logical argumentation and was supported during the validation, further validation of the recommendations through research within other industries is needed.

6.3 Outlook

This section takes an outlook on potential future research and discusses which components of the research could benefit from further analysis. Some suggestions to improve the validity of this research are made, but also some suggestions to alter the scope or mirror the research within other industries or countries.

The company analyzed within this research was still on its journey to find the optimal configuration and enable the ambidexterity required to facilitate both operational excellence and innovativeness. It would be interesting to follow-up at a later point in time and evaluate which choices the company made and how they have changed the situation. This would provide the opportunity to single out individual factors and further analyze the impact they have on enabling or hindering the success of the venturing process.

Additionally, it would be interesting to evaluate the generalizability of the presented results through further research in different settings. There are multiple opportunities to do so, depending on the desired scope. One opportunity would be to analyze the direct competitors of KPMG within the same country. Alternatively, one could compare the results a company in another industry within the same country. Finally, since KPMG is a network of similar but not equal companies there exists an opportunity to follow up with other sister companies in different countries and analyze cultural influences or different choices the company has taken.

Moreover, it would be interesting to continue analyzing the decision frameworks surrounding successful and unsuccessful internal venture initiatives. This should include comparing different process implementations, metrics or procedures. Attention should be paid to the controlling component of these processes, as requirements from these departments seem to have a significant impact, especially on the startup/idea phase. To identify different needs of different stakeholders, researcher could, for example, separate the financial controlling from the operational controlling, or include additional of stakeholders from compliance, IT-security or legal departments.

Further, it would be interesting to analyze other factors potentially influencing the venturing success by combining this research with other theories from the literature. For example, the different informal roles, which stakeholder take, could be analyzed further, e.g. through applying the upper echelon theory (101) and evaluating how the backgrounds of actors influence the process.

Research directed at customer-centered product development strategies often assumes a separated and straightforward relationship between producer and customer. It would be interesting to analyze how the company-customer relationship inherent to consulting companies influences the application of customer validation. It would be interesting to know whether the fears of the consultants, to lose their reputation or status as explained in Section 4.3.1.2, are justified or not. Researcher could analyze how the change from consultation to cooperation improves or damages the relationship, and which consequences develop for the company.

Furthermore, this research does not discriminate between internal ventures directed at different innovation horizons, i.e. between internal ventures targeting Horizon 2 in contrast to internal ventures aimed at Horizon 3. It might, however, be interesting to do this discrimination and differentiate between different forms of innovation and how they require different decision frameworks. Whether a venture results in a physical artefact or a service might require different patterns of behavior and therefore impact the decisions surrounding the development.

Finally, this research found that the gathering and distribution of information throughout the company is challenging. Therefore, there is a high potential for the development of an integrated software solution to facilitate and unify this part of the venturing process. A central platform used to consolidate data and store information and insights could enable a better communication within the enterprise. Companies could use this platform further to analyze the effectiveness of specific metrics by analyzing correlations between metrics and success projects.

6.4 Conclusion

This research started out with the question of how large enterprises should design their venturing process to control and steer their internal lean ventures effectively. Initially, the assumption was made that the most potent influence a parent company has on the internal lean venture will be the decision framework focused on continuation or termination of ventures. While these decisions were found to be impactful and essential with regards to an individual venture, the analysis of the case shows that there is a variety of other relevant factors mediating the success of innovation initiative, e.g. company culture or employment configuration.

For the design of corporate accelerators the following four questions are especially relevant (5):

• What is the proposition of the accelerator, which means clarifying what the strategic intent behind the accelerator is as well as how the corporate objectives align with the potential ventures?

- How does the process look like to define the interaction between enterprise and venture, how can the company ensure that it is easy to work with a venture?
- Who are the right people to do venturing and it needs to be clarified, how the right ventures can be selected, how internal buy-in can be ensured and how networking can be facilitated?
- Where does the company see its presence with regards to location and agency in relation to the ventures?

The analysis has shown that the company should further refine their answers to those four questions, since the status quo leads to challenges. Many of the factors are due to the company still being in transformation and searching for an optimal configuration. Both operationally as well as culturally, the company should aim to progress further down the transformation curve.

Generally, the research suggests that the factors influencing the innovativeness of a large enterprise are interconnected and partially implicit and intangible. The inherent uncertainty and required learning surrounding the transformation process with regards to the organizational structure and the decision framework make it advisable to apply dynamic ambidexterity. Companies will need to develop an awareness of their situation and implement processes fit to their specific characteristics to successfully innovate.

Companies should take deliberate choices in iterative steps and evaluate closely which impact these choices have on the bigger picture. Only if the company is bold enough to react on the reality that it faces, instead of being stuck within their old thinking, can it achieve the ambidexterity required for excelling in both exploitation and exploration. To enable the strengths of the lean startup methodology it is necessary to apply the constituting components properly and adhere to the relevant practices. While applying concepts selectively is in line with the dynamic ambidexterity thought, the adaptation should be done with caution. For example, leaving out the validated learning approach will not lead to the expected and desired results.

The research hopes to have achieved further insight into how the lean startup methodologies can be used to facilitate innovation in large enterprises. The journey for finding the right configuration will always be a unique one and every company is well advised to develop the necessary self-reflection to critically assess the decision framework and the enabling and hindering factors themselves. However, this research identifies common challenges and proposes possible mitigations which can help to inform and inspire effective choices. Companies, who wish to take a step into a similar direction and incorporate the lean startup, can orient themselves at the experiences depicted within this work. Especially for companies with a similar contextual configuration the case should be suited to enable others to profit and potentially avoid similar challenges.

From a theoretical point of view, this research contributes to the literature in the following points. First, it consolidates insight from separated research domains like ambidexterity (e.g. (15), (27), (28), (47)), causation & effectuation ((18), (19), (21)), corporate entrepreneurship (e.g. (10), (11), (12), (13), (50), (6)) as well as business modeling ((7), (8), (32), (33)). This consolidation and review allow the formation of a more holistic understanding of these topics

with regards to internal venturing. Second, it helps to translate and to validate the insights won through practitioners to make them better suited for academic research and advancement. Furthermore, it provides insights into a relevant and exciting case with unique features, which cannot easily be replicated due to limited access to stakeholders and corporate documents. While previous research often focused on the analysis of software companies or companies which classically possessed new product development, this case delivers additional insights into the professional service industry and therefore a business which classically only engages through consultant work with clients.

From a practical point of view, this research contributes further. The unbroken interest in the lean startup methodology, especially through large enterprises, leads to continued adoption of the methodology by more and more companies. This research helps to streamline the transformation process and deliver insights to practitioners to support a more easy and productive transformation by introducing common pitfalls and challenges, while simultaneously delivering suggestions to mitigate the presented issues. The author of this research hopes that this will enable companies to direct more resources and expertise towards the actual innovation outcomes, rather than the innovation processes.

Appendix

A Validation of findings through Bank A

			Projec	t Manager	Portfolio Manager		
Ctgry.	Theme	Individual Item	Commented	Agree/Disagree	Commented	Agree/Disagree	
		Respect based working	Voc	Δστοο	Voc	Δστοο	
	Current culture		Voc	Agroo	Voc	Agroo	
		Conservative environment	res	Agree	res	Agree	
Organizational Environment (4.4.2) Mindset & Culture (4.4.1)	(4.4.1.1)	Difficult for new people	NO	-	No	-	
4.1		Need to establish innovation function	Yes	Agree	Yes	Agree	
(4.)	Differences in working with customer	Delivering vs. Cooperating	No	-	Yes	Agree	
e	(4.4.1.2)	Knowing vs. Asking	No	-	Yes	Agree	
tur	(4.4.1.2)	Having vs. Searching	No	-	No	-	
CU		Clear instructions vs. No instructions	Voc	Δστοο	Voc	Δστοο	
rganizational Ervironment (4.4.2) Mindset & Culture (4.4.1)	Differences in type of work	De estive ve De estive	Vee	Agree	Vee	Agree	
set	(4.4.1.3)	Reactive vs. Proactive	res	Agree	Yes	Agree	
pu	. ,	Short time vs. Run & Maintain	No	-	No	-	
Ξ		Low margin vs. Investing	No	-	Yes	Disagree	
	Differences in monetization	Short term vs. Long term	Yes	Agree	Yes	Agree	
	(4.4.1.4)	Stable vs. Volatile	No	-	Yes	Agree	
	· · ·	Different distribution of returns	No		Voc	Agroo	
			NU	-	res	Agree	
		Less customers	No	-	Yes	Agree	
	Being a professional service company	Higher expectations & quality standards	No	-	Yes	Disagree	
	(pap)	Difficult and long sales process	No	-	Yes	Disagree	
5)	(828)	High complexity	No	-	No	-	
4.3	(4.4.2.1)	High rick & regulations	Voc	Agroo	Voc	Agroo	
(4.			Tes	Agree	res	Agree	
ant		Independence issue	NO	-	NO	-	
Ĕ		Insecurity around applying the methodology	Yes	Agree	Yes	Agree	
ronn	Poing in transformation	Suboptimal coordination	No	-	Yes	Agree	
vir	being in transformation	Lack of common definitions	No	-	No	-	
Ш́.	(4.4.2.2)	Unaligned software & manual workarounds	Yes	Agree	Yes	Agree	
na		Communication channels	No	~8.~~	No		
atio			INU	-	INU	-	
liza		Different focus in selection criteria	Yes	Agree	Yes	Agree	
gar	Low embedding of entrepreneurship	Unaligned KPIs - Individual	Yes	Agree	Yes	Agree	
ő	tow embedding of entrepreneursmp	Unaligned KPIs - Department	Yes	Agree	Yes	Agree	
	within the organization	No dedicated career path	Yes	Agree	No	-	
	(4.4.2.3)	No dedicated time	Voc	Δστοο	No	_	
			Vee	Agree	No.	A	
		Misaligned Incentive structure	res	Agree	res	Agree	
po	Lack of familiarity with the	General unfamiliarity	Yes	Agree	Yes	Agree	
ath	methodology within the company	Not being used to kill projects which are failing	Yes	Agree	Yes	Agree	
Ϋ́ς	(4.4.3.1)	Using vanity metrics	Yes	Agree	Yes	Agree	
4.5		Hesitance to approach customers	No		Yes	Agree	
art (4.	Not following the validated learning	Not asking the sustements	Voc	Agroo	Voc	Agroo	
st	method (4.4.3.2)		res	Agree	res	Agree	
ean		No re-verification of assumptions	Yes	Agree	Yes	Agree	
Le	(Shaping the future themselves	Yes	Agree	Yes	Agree	
		Must-have basis for information requirements	Yes	Agree	Yes	Agree	
		Focus on actionable metrics	Yes	Agree	Yes	Agree	
	Leaner and consistent controlling	Consistent alignment between all parties	Ves	Δστοο	Vec	Δστοο	
	framowork	Defer quality requirements to after validation	Vec	Agree	Vec	Agree	
	(F. e. e.)	Defer quality requirements to after varidation	res	Agree	res	Agree	
	(5.4.1)	Arcnetypes of innovation	No	-	Yes	Agree	
		Automation of generation and flow of metrics	No	-	Yes	Agree	
		Progressive increase of control	Yes	Agree	Yes	Agree	
		Focus on learning	Yes	Agree	Yes	Agree	
		Eocus on customer validation	Yes	Agree	Yes	Δστορ	
	Embod the validated learning	Englis on actionable metrics	Vee	Agree	Vcz	Agree	
	entitied the valuated learning		res	Agree	res	Agree	
ts	methodology	Develop a baseline for metrics	Yes	Agree	Yes	Agree	
len	(5.4.2)	Develop stronger market awareness	Yes	Agree	Yes	Agree	
em		Start more ventures	No	-	No	-	
20		Continuous experimentation	Yes	Agree	Yes	Agree	
np.		More autonomy for the innovation function	Voc	Δστοο	Voc	Δατοο	
d Ir (5		Dedicated controlling unit	No	Agree	No	~8'CC	
tec	Dynamic & ambidextrous innovation		INO	-	INO	-	
Sec.	function	Hexible and adaptive governance structure	Yes	Agree	Yes	Agree	
ingu	(5 / 3)	Free selection of employees	No	-	No	-	
S	(5.4.5)	Distinguish between types of innovation	Yes	Agree	Yes	Agree	
		Allow service diversification	No	-	Yes	Agree	
		Utilizing low-code platforms	No		No		
	Empower the startur /idea phase	Decomposing problems (and colutions)	N-	-	N-		
	Empower the startup/idea phase	Decomposing problems (and solutions)	NO	-	INO	-	
	(5.4.4)	Using its brand and network	No	-	No	-	
		Lump-sum financing	Yes	Agree	Yes	Agree	
		Dedicated time for innovation	Yes	Agree	Yes	Agree	
		Common platform	Yes	Agree	Yes	Agree	
	Strengthen the integration	Embed ventures in company through association (units, strategy)	No		Vec	Agroo	
	(5.4.5)	Improve communication and knowledge association (units, Stidlegy)	N	A 967-7	Ver	Agree	
		Improve communication and knowledge spill over	res	Agree	res	Agree	
		Adapt employment configuration	Yes	Agree	Yes	Agree	

Table 44 - Overview of the validation of Bank A

B Validation of findings through Bank B

	Theme		Project Manager		Portfolio Manager		Controlling		Leadership	
Ctgry.		Individual Item	Commented	Agree/Disagree	Commented	Agree/Disagree	Commented	Agree/Disagree	Commented	Agree/Disagree
		Respect based working	Yes	Agree	No	-	No	-	No	-
	Current culture	Conservative environment	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
	(4.4.1.1)	Difficult for new people	No	-	No	-	No	-	No	-
.1)		Need to establish innovation function	No	-	No	-	Yes	Agree	No	-
4.4		Delivering vs. Cooperating	Yes	Agree	Yes	Agree	No	-	Yes	Agree
e ((4.4.1.2)	Knowing vs. Asking	No	-	Yes	Agree	No	-	Yes	Agree
Itn		Having vs. Searching	No	-	Yes	Agree	Yes	Agree	Yes	Agree
C		Clear instructions vs. No instructions	No	-	No	-	Yes	Agree	Yes	Agree
et 8	Differences in type of work	Reactive vs. Proactive	Yes	Agree	No	-	No	-	Yes	Agree
dse	(4.4.1.3)	Short time vs. Run & Maintain	No	-	No	-	No	-	No	-
Ξ		Low margin vs. Investing	No	-	No	-	No	-	No	-
	Differences in monetization	Short term vs. Long term	No	-	No	-	No	-	Yes	Agree
	(4.4.1.4)	Stable vs. Volatile	No	-	No	-	No	-	No	-
		Different distribution of returns	No	-	No	-	No	-	No	-
	Being a professional service company (B2B) (4.4.2.1)	Less customers	No	-	No	-	No	-	No	-
		Higher expectations & quality standards	No	-	No	-	No	-	No	-
		Difficult and long sales process	No	-	No	-	No	-	No	-
5)		High complexity	Yes	Agree	No	-	No	-	Yes	Agree
1.4.		High risk & regulations	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
it (2		Independence issue	No	-	No	-	No	-	No	-
ner	Being in transformation	Insecurity around applying the methodology	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
onr		Suboptimal coordination	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
Zir		Lack of common definitions	Yes	Agree	Yes	Agree	No	-	Yes	Agree
alE	(4.4.2.2)	Unaligned software & manual workarounds	No	-	No	-	No	-	No	-
ona		Communication channels	No	-	Yes	Agree	No	-	Yes	Agree
zati		Different focus in selection criteria	Yes	Agree	No	-	No	-	No	-
gani		Unaligned KPIs - Individual	No	-	No	-	No	-	No	-
Org	Low embedding of entrepreneurship	Unaligned KPIs - Department	No	-	No	-	No	-	No	-
	within the organization	No dedicated career path	No	-	Yes	Agree	No	-	No	-
	(4.4.2.3)	No dedicated time	No	-	Yes	Agree	No	-	Yes	Agree
		Misaligned incentive structure	No	-	Yes	Agree	Yes	Agree	No	-
р	Lack of familiarity with the	General unfamiliarity	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
etho	methodology within the company	Not being used to kill projects which are failing	No	-	No	-	No	-	No	-
3) Me	(4.4.3.1)	Using vanity metrics	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
tup 1.4.:		Hesitance to approach customers	No	-	No	-	No	-	No	-
star (4	Not following the validated learning	Not asking the customers	Yes	Agree	Yes	Agree	Yes	Agree	No	-
an S	method	No re-verification of assumptions	No	-	No	-	Yes	Agree	No	-
Le	(4.4.3.2)	Shaping the future themselves	Yes	Agree	Yes	Agree	Yes	Agree	No	-

Table 45 - Overview of the validation of Bank B

Ctgry.	Theme	Individual Item	Project Manager		Portfolio Manager		Controlling		Leadership	
			Commented	Agree/Disagree	Commented	Agree/Disagree	Commented	Agree/Disagree	Commented	Agree/Disagree
		Must-have basis for information requirements	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
		Focus on actionable metrics	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
	Leaner and consistent controlling	Consistent alignment between all parties	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
	framework	Defer quality requirements to after validation	No	-	Yes	Agree	Yes	Agree	No	-
	(5.4.1)	Archetypes of innovation	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
		Automation of generation and flow of metrics	No	-	No	-	No	-	No	-
		Progressive increase of control	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
		Focus on learning	No	-	Yes	Agree	Yes	Agree	Yes	Agree
		Focus on customer validation	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
	Embed the validated learning	Focus on actionable metrics	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
\$	methodology	Develop a baseline for metrics	Yes	Agree	No	-	Yes	Agree	No	-
ent	(5.4.2)	Develop stronger market awareness	No	-	Yes	Agree	Yes	Agree	No	-
em		Start more ventures	No	-	Yes	Agree	Yes	Agree	Yes	Agree
rov		Continuous experimentation	No	-	Yes	Agree	Yes	Agree	Yes	Agree
тр 5.4	Dynamic & ambidextrous innovation	More autonomy for the innovation function	No	-	Yes	Agree	Yes	Agree	Yes	Agree
))		Dedicated controlling unit	No	-	No	-	No	-	No	-
este		Flexible and adaptive governance structure	Yes	Agree	Yes	Agree	No	-	Yes	Agree
99r	function	Free selection of employees	No	-	No	-	No	-	No	-
SI	(5.4.3)	Distinguish between types of innovation	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
		Allow service diversification	No	-	No	-	No	-	No	-
		Utilizing low-code platforms	No	-	No	-	No	-	No	-
	Empower the startup/idea phase	Decomposing problems (and solutions)	Yes	Agree	No	-	No	-	Yes	Agree
	(5.4.4)	Using its brand and network	No	-	No	-	No	-	No	-
		Lump-sum financing	No	-	No	-	Yes	Agree	Yes	Agree
		Dedicated time for innovation	Yes	Agree	Yes	Agree	No	-	Yes	Agree
		Common platform	No	-	Yes	Agree	No	-	No	-
	Strengthen the integration	Embed ventures in company through association (units, strategy)	Yes	Agree	No	-	Yes	Agree	Yes	Agree
	(5.4.5)	Improve communication and knowledge spill over	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree
		Adapt employment configuration	Yes	Agree	Yes	Agree	Yes	Agree	Yes	Agree

Table 45 - Overview of the validation of Bank B

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