Master Thesis by
Jacob Harlev (300893-3323) & Anders Rosenbæk (060192-1383)

A new model for corporate entrepreneurship

Adopting startup principles and practices

Abstract

This master thesis examines and analyzes, what benefits there are for an entrepreneur, when looking at the internal capital market and resources and capabilities available at an established company, compared to pursuing investment from the external capital market to start a new business. This thesis will establish a connection between innovation which creates growth and experimenting with validating and building new business models. This requires making judgements about the future trajectory of markets, customer behavior, technological development and countless other factors. In existing literature, this function is best ascribed to the entrepreneur, who makes decisions under uncertainty about new combinations of the resources he has under his control. Recognizing the challenges associated with running dual business models, we look to the notion of organizational ambidexterity to demonstrate how different organizational contexts are required for exploitation of the current business model and exploration of new horizons. Postulating that more and more markets are showing highly dynamic characteristics, we argue that simultaneous pursuit of both is necessary under these conditions. The empirical data used in the present thesis, is gathered through five semi-structured qualitative interviews with employees at innovative companies, including Microsoft and Google.

The final goal for this thesis, was to construct a separate physical organizational structure that could work in tandem with the existing focused on exploitation, but show entrepreneurs that thinking ahead and exploring new avenues for growth, is valued by the company. Working in a large corporate setting, would allow entrepreneurs to leverage the existing assets and resources a company possesses and harness that towards building something new, that can quickly reach massive scale and impact potentially millions of customers. We argue that a chief entrepreneur mentoring a team of young entrepreneurs, with the mandate to build new business models - supported by a VC portfolio style of investing - can create new valuable businesses, if the entrepreneurs are given the necessary decision rights that allow them to fully exercise their entrepreneurial judgement within the context of an established company.

Enjoy!

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1.

Introduction

Companies all over the world are facing increasing levels of chaotic change and complexity, which limits their ability to perform like they used to. This struggle, often resulting in declining profits and changing markets is not something new that companies haven't been paying attention to. However a number of factors are converging and playing a big role in making the nature of this threat somewhat different than what companies have faced before. As summed up by Duus: *"This includes the globalization of businesses and markets, the increased development of turbulent business-to-business markets, the increased development of turbulent financial markets, the increased importance of politics, the increased importance of environmental concerns, new technological and scientific developments, and more extreme fluctuations in business cycles"* (Duus, 2016).

Adapting to this new environment has been tough for a large number of companies that have failed to respond in time. "52% of the Fortune 500 have been merged, acquired, or have gone bankrupt since 2000." (Gapgemini Consulting, 2015).

"In fast-paced, globally competitive environments, consumer needs, technological opportunities, and competitor activity are constantly in a state of flux. Opportunities open up for both newcomers and incumbents, putting the profit streams of incumbent enterprises at risk." (Teece, 2009).

There is at the same time also the increasing threat of startups, and disruption destroying established industry structures seemingly overnight, and competition that eliminates returns on investment in innovation to below the opportunity cost of capital, which is looming from everywhere and has likely never been greater. The Wall Street Journal tracks jjall startups globally that are valued at 1 billion dollars or more, the lauded unicorn territory, with their "Startup Stock Tracker". In 2015 there were over 100 on the list, at the time of writing, the list tops out at about 50 (Austin, Winkler, Lightner, Ketineni, 2017).

"These high-value companies are, in many cases, not creating entirely new markets, but rapidly eating into traditional sectors using a combination of superior technology and a compelling customer experience." (Gapgemini Consulting, 2015).

Pace of change

The technological developments that have come to dominate over the past few decades are perhaps most to blame for the increasing pace with which markets and consumer demands shifts. Every business has become a technology business today or what happens is that technological change is going to sooner or later impact the business world you operate in by changing something fundamental to it. "As a result of this shift, a technological change can quickly create a strategic inflection point for any business." (Griffin, 2017) .

When starting his own business Jonas Schwarz Lausten, entrepreneur and owner of Nordic Hotels in Nigeria was surprised by this development (Interview, Schwarz): *"I've always said that I would never start a tech-company, because i'm not a tech guy. Quickly I found out that was a lie, if you wanted to succeed. All of our hotels are data-driven, and everything is in the cloud. Every manager can through their smartphone check, how many beers, Coca-Cola's, wine etc. that every refrigerator has. On every floor, any level, and at any restaurant. And that means our inventory is efficient and on point."*

Every industry is becoming digitized to some extent - software is eating the world as Marc Andreessen would say (Andreessen, 2011).
What this technological change has also brought with it, is this increased competition from new entrants. The barriers to entry for running a startup experiment has plummeted recently.
Startups can grow and scale faster than ever before. Disruptive innovations can transform markets faster than ever before and startups being global from day one, only destroys incumbents profits faster.

The now infamous Moore's law can help explain the reasons for this exponential change in complexity for businesses and why the pace of change is only increasing. There are a couple of different interpretations of this law, but the perhaps most relevant to this context, is that the number of transistors on a integrated circuit doubles every 18 months, which results in more computing power available per dollar.

"The bulk of the evidence suggests information technology has delivered both technically and economically: it has achieved the promise of Moore's Law in both its narrowest sense of transistor scaling and its broadest effect of widespread economic uplift." (Swanson, 2015).

This has made it much cheaper and less risky to start a startup, because you don't need to own servers and other costly infrastructure, you can just pay for the compute cycles on Amazon Web Services or another cloud provider, which also enables you to scale more incrementally and appropriately. You are not locked into an expensive contract you can't get out of and you only pay for what you use.

Software development tools that help developers write faster and better software has improved immensely, while at the same time often being available as open source software, lowering the barriers to entry even further. The use of methodology such as agile development and lean startup MVP building has also gained wide use, helping to lower startups time to market even further, through tighter iteration cycles. At the same time in the hardware space, rapid prototyping techniques and the digitization of manufacturing has done much the same. And high-tech hardware companies are among the most vulnerable and least future-proof. They may have state of the art products right

now, but have to constantly innovate to remain competitive. They could keep growing, but they could just as well Nokia their way out of existence. Failing to respond to new competitors, shifting consumer demands and predictable technological change in the miniaturization and power of ICT.

At the same time, there has also been a change in focus regarding strategy, from an orientation towards the external environment, to a preoccupation with the more singular company internally focused concepts like resources, capabilities, competencies, culture and so on.

"One probable reason for the shift from external to internal and proximate may be that the stagflation of the 70s gradually led to less reliance on external market growth and to a search for profits through firm-internal or proximate improvements... In an environment where rising costs and stagnant growth are the norm, it makes sense to focus on cutting costs, getting back to basics, developing distinct competencies, developing relations to existing customers, and analyzing the immediate surroundings of the firm." (Duus, 2016).

This world we find ourselves in now however, with increasing complexity and uncertainty, calls for a more long-term oriented approach to dealing with these issues. A renewed focus on customers, markets and innovation that doesn't have to make next quarter's numbers look good. This is not a move away from these new developments in strategy, but highlights the need for companies to develop innovation capabilities that can handle uncertainty and complexity (Duus, 2016).

The question: why are some firms successful – perhaps continually – while others are not, are a fundamental question in the field of strategic management. We argue that more attention needs to be dedicated to the role of organizational design and management processes in an attempt to understand corporate success (Foss, et. al, 2012). Companies constantly have to change their organizational structures, experiment with their reward systems, renew their administrative systems, and reconfigure their organizational designs in new ways. Companies are increasingly confronted with the need to re-think aspects of their organization because long-run viability depends on the fit between the organization and the environment. In the 21st century environments are changing faster, becoming more unpredictable, and making new demands on organizations and management practices (ibid.).

Because of the company's competitive environments, organizations not only have to be able to adapt to and match the demands of the environment with the capabilities of the organization; they also have to continuously renew their resources and capabilities.
The firm's organizational design and management processes are key factors in the identification, sourcing, building, and exploitation of resources and capabilities. Therefore, the new role for organizational design and management processes is not only to fit the environment at a given point in

time, but also to enable the organization to source and build those resources and capabilities that will make the firm capable of competing in the nearest future (ibid.).

As innovation has become just another word for growth, the urgency for companies to innovate has only gotten greater. With that has come the recognition that companies must focus on developing these internal innovation capabilities if they want to stay competitive, avoid being disrupted or perhaps even to avoid bankruptcy altogether.

"Everywhere you look these days, there's an announcement about another Fortune 500 company launching some form of innovation lab, hub or incubator. In the US alone, the number of internal innovation incubators has grown from twelve in 1980 to an estimated 7000 today." (Fahrenheit 212, 2015).

"Innovation labs offer a promise that no CEO can say no to, a combination of braver experimentation in things that would seem to throw of more growth than the closed in things they've already been doing, but to do so in an agile way, where low cost experimentation produces big breakthrough growth opportunities. With an innovation lab you can think more broadly about what's happening in the market and what are those spaces you might want to go beyond where you're currently playing." (Fahrenheit 212, 2015).

The reasoning for opening these labs all seem to converge around these same points, that there is a need to be more innovative to respond to the changes in the environment. It's easy to say that large corporations must innovate faster and better if they want to stay relevant. But avoiding the fate of turning into the proverbial dinosaur is extremely tough. Innovation and change is a chaotic process, but mature established companies are often setup to be efficient execution machines, selling their products to known customers in known markets. To at the same time run an innovation engine that produces profitable growth in the long run, requires an ambidextrous organization able to do both exploitation of the current business model and exploration of new horizons.

"In essence, innovation labs create a 'safe ' space where an organisation can explore unconventional, even radical ideas in hopes of inspiring changes or new opportunities that could enhance its business." (ibid.).

It seems like no industry is too manual or traditional to avoid software eating it, innovation labs are opening up in industries you wouldn't expect. Here in Denmark for instance, Danske Bank has one, IKEA has opened one and LEO Pharma have their innovation lab. That all seems reasonable and not the least shocking, however the facility management (cleaning company) ISS has also opened a corporate garage to promote entrepreneurship and innovation. In partnership with IBM they are bringing AI to the facilities ISS manages and transforming the business from the inside (Bason, 2017).

In the US, Marriott in the hospitality industry and even the nba team Philadelphia 76ers have opened

an innovation lab. There is no shortage of articles detailing the launch of new innovation labs, what is in more short supply, are updates on the successes or failures of these after launch.

"For every innovation lab that succeeds in achieving positive outcomes, there are many that suffer an all too different fate, usually amounting to nothing more than glorified meeting rooms. To the outside world, these labs are hubs of creativity and inspiration, internally, they can often become a place where people get away from their desks to lodge expense reports and read magazines. So why are these innovation labs failing?" (Namdarian, 2017).

"The catch is that the success rates of these incubators are wildly varied from company to company. While there is PR value and cultural topspin in simply having an innovation lab, the point is not to garner press clippings. It is to build more powerful innovation pipelines and attractive ROI for the organization" (Fahrenheit 212, 2015).

These new innovation labs face a lot of pressure to deliver both products that satisfy the evolving needs of consumers and also the company's growth requirements, all in the midst of this rapidly changing playing field. So how are they doing that? What are the systems for management of innovation processes and the organizational designs that go with it?

To date, a lot of the innovation debate is stuck in a debilitating series of polarizations:
- Should we control innovation at the center or at the business unit level?
- Is innovation possible in a mature culture or should we do innovation externally?
- Does innovation conflict with execution?
- How do you build an innovation engine, that can keep producing new growth opportunities?
- How do you structure it? What incentives? What is the right culture? How can we measure progress and ensure good ROI? What processes should it work by? What is the HR challenge of finding, attracting and allocating the right talent?

Its arguable that by experimenting with innovation labs, companies have implicitly tried to solve some of these debates, and the answer seems to be that a mature culture focused on execution does conflict with innovation in some way and haven't been able to deliver the kind of growth companies and shareholders have come to expect.

"An innovation lab can help push the company into new territories, reassure stakeholders, and entice consumers. But, how that lab is structured, funded, and run is critical to ensuring that it is able to deliver innovations that the organization can adopt while also meeting and foreseeing consumer demands." (Fahrenheit 212, 2015)

Innovation labs can be viewed as organizational and management innovations, they offer a structure for innovation that is long term oriented. The organizational design, setup and development of this innovation capability can be structured in different ways, in regards to decision rights, incentive schemes and so on. We will argue for a configuration of these elements that the literature and our fieldwork suggests would foster an innovative culture, drive low cost entrepreneurial experimentation and create the new businesses and revenue streams that will generate future growth.

Previously companies have experimented with a different but complementary model of having massive R&D labs and skunkworks style teams working on big breakthrough technology.
These were supposed to solve mostly the same issues as innovation labs are today, but were run and structured according to a different set of heuristics. The prevailing wisdom was that technological leadership would result in sustainable competitive advantage that would drive future growth and increased profits.

What took longer to realise is the fact that technology without a market and customers to buy the product, is worth nothing. In fact, it often costs a lot of money, time and wasted opportunity. Other companies saw the potential in the technology that was developed but never commercialized and brought to market. This spawned the success of companies like Apple and the downfall of companies like Xerox Parc or Kodak, whose OLED technology Samsung now dominates.

What is happening now is that innovation labs are trying to adopt the principles of startups - agility, speed/urgency, customer development focus - but most importantly, the recognition that products that don't deliver value to customers and manages to capture some of this through an appropriate business model, amounts to nothing more than lawyer fees and trips to the patent office. That is to say, that managers are increasingly aware that success in innovation means doing more than being productive at R&D and delivering new quality products and services. You have to not only spend lots on R&D and protecting IP, but also develop and implement the complementary managerial and organizational innovations necessary for developing and testing new business models alongside new products and value propositions.

"In today's competitive environment of rapid technological change and quickly evolving industries, it doesn't pay to become too attached to current lines of business or methods for serving customer needs. You need to regularly change what you make and sell, and probably how you make and sell it. You must be nimble and, as certain lines of business wane, be able to identify growth opportunities in and out of the core industry and pursue them in experimental, cost-effective ways. For that, you need the risk-taking, resourceful attitude of an entrepreneur." (Davis, Roberts: 2014).

You need entrepreneurial judgement to make informed decisions about the future state of markets,

customer needs etc. and allocate the necessary resources towards value creating innovation activities for the firm. And thereby sustain superior financial performance and growth over time, from birth, growth, maturity and decline of the individual businesses, but since no market for entrepreneurial judgement exists (because of no marginal product and transaction costs), these people are more likely to start their own company than to pursue a long career at a large corporate.

Research question

It is in light of this, that we in the present thesis, will investigate the following:

What benefits might be gained for the entrepreneur looking at the internal capital market and resources/capabilities available at an established company versus pursuing investment from the external capital market to start a new business?

To answer this question, we will look at how innovation happens in established companies and the problems associated with this. First of all by providing a definition of the kind of innovation that generates growth, the organizational challenges associated with pursuing more than one business model at a time, and furthermore analysing some of the problems and benefits associated with this kind of an ambidextrous organization.

We have conducted interviews with an entrepreneur, a consultant, HR managers at Google and Microsoft, and a employee at an innovation lab. To gain perspectives on the kind of challenges they face when it comes to innovation and entrepreneurship.
We want to dig deeper within organizational design, culture, decision rights and income rights. Furthermore treating innovation labs as an experiment with ambidextrous organizational structures, we will look at the problems a lot of innovation labs have encountered.

According to the processes of innovation, we use the three horizons to give a view on investing in different stages. Thusly we will look at how large companies structure and make decisions and investments in innovation projects through an internal capital market and how this might be harming their ability to deliver innovation that produces growth.
Then we will look towards the external capital market and how the VC and entrepreneur relationship works and what might be learned from this approach, as it pertains to established companies making investments in innovation.

We connect the growth innovations, we have identified as critical for the success of a company in the long term, to the uncertainty inherent in developing these innovation. We then establish entrepreneurial judgement as the primary decision making skill required to handle this uncertainty. Finally we discuss some of the implications of our analysis and proposed solution, as well as some further

considerations for the undecided entrepreneur.

The framework advanced here in this thesis, outlines what we believe to be the foundations of long-run enterprise success. Focusing not on how to build the next product that will dazzle customers and excite shareholders, but on building an innovation engine that can keep the pipeline filled with new business opportunities. Analysing and arguing some of the relevant strategic considerations and organizational design choices, we believe that companies must adopt to enhance future performance, gazing beyond the next quarter and escape the zero-profit tendency associated with operating in markets open to global competition.

2.

Research methods

It is important to create coherence between methods, goals, validity, conceptual frameworks and the research question you want to answer, according to Maxwell (2008). Creating coherence in qualitative studies is an iterative and reflexive process throughout the entire project (Maxwell, 2008). This section of the paper reflects upon how our study was initially designed and how it has evolved through the process of design, data collection and analysis.

Philosophic Considerations

Our research question is of an explorative nature and aims to gain insights into the competition that eliminates returns on investments in innovation, to identify the opportunity cost of capital, which is looming from everywhere. We have chosen a qualitative approach, because it gives us a reflexive view on the social world of business. As Eriksson & Kovalainen (2008: 4) pointed: "A critical and reflexive view about the social world of business and its core processes".

Our analysis is conducted in the social world of business, which also imply the exploration of different meanings and alternative interpretations of the studied phenomenon (Eriksson & Kovalainen, 2008). This has to be seen in relation to the philosophical position and paradigme, Social Constructionism, where the ontology is:

"Seemingly objective features such as industries, organizations and technologies, are constituted by subjective meanings of individuals and intersubjective processes such as discourses." (Eriksson & Kovalainen, 2008: 23)

Research Design

The fact that our assignment is written within a social constructivist paradigm, express fundamental methodic tendencies. That is principals, who control a research field, whom determines, how the researches look at the world, as "What is reality/what exist" (ontology) and "what is knowledge, recognition/what can you know" (epistemology) (Nygaard, 2012).
In our first chapter we move within the social constructivism universe, where the recognition of all humans is a result of culture and the historical past every human being are a part of. It is a construction and not a congenital ability.

The epistemological approach can be illustrated:

Ontology	The doctrine of the remaining (existing). Expressed in the assignment of research and experience in the field of innovation management.
Epistemology	Perspectives and knowledge about "the world". Expressed in the assignment how we perceive the innovation management in different aspects.

Our theory complex are characterized by the way we have used them to make our case trustworthy and answering our research question. In the construction of our analysis within the constructivist paradigm, the focus is on the dynamics and interaction between how the chief entrepreneur and his team can be a part of the organisation and create value for both parts.

Case Study

As Yin pointed: "The distinctive need for case studies arises out of the desire to understand complex social phenomena. In brief, the case study allows an investigation to retain the holistic and meaningful characteristics of real-life events." (Yin, 1994: 3).

When we were engaging this study, there was a little prior knowledge about the phenomena in scope; we decided to design the study as a qualitative and exploratory case study (Yin, 1994: 15). According to the logic proposed by Maxwell (2008), it has been designed in an iterative way, that allows to apply a reflexive process through all the stages in the project. While we were collecting and analyzing data, the theoretical focus has been changed, we refocused our research question and validity threats have been handled, which will be answered in section 7.3 (Maxwell, 2008: 215).

When we are entering the explorative case study with an iterative design, it helps to sharpen the focus on the study throughout the entire process. Further reasons for choosing this approach are elaborated in the next section.

In our research question we use the question "how", which seeks to explore the complexity of investment in innovation below the opportunity cost of capital (Yin, 1994: 7), which is looming from everywhere.

Our Investigation involved a large array of contextual conditions (Yin, 1994: 13), such as events, interactions, observations and interpretations that is important to explore the phenomena and to draw a conclusion. Yin (1994) also notes that in situations where the investigator has little ability to influence the interaction and behavior, one relies on systematic interviewing to supplement other data sources in order to gain sufficient empirical grounds for analysis (Yin, 1994). This means we had little control over the development of the studied events. When we performed semi-structured interviews, our data was collected in a way that allowed us structured data analysis, while simultaneously being open towards new interpretations, events and links.

Furthermore our study focuses on the contemporary events and employs an interview guide that investigates the individual's perception and interpretation of events over the course of the past year.

Participant observation

As the essential method for collecting empirical data for this project, we used participant observation. Participant observation is one among several methods in ethnographic fieldwork. Fieldwork study seeks to understand a site and how the site understands itself, while at the same time be aware that one's presence may influence and affect the events. In our field work, we draw inspiration from phenomenology and uses therefore our sensory apparatus during the course, by listening, jot, stroking, participate and observe (Sunstein, Chisere-Strater, 2011).

Fieldwork is not much different from our natural abilities to observe other people and the pheno-mena that surround our sphere. Ethnography differs from man's natural interpretation of the sur-roundings, by using a more deliberate and systematic approach in the field, where one's choices are decided on the basis of careful consideration (Atkinson & Hammersley, 2007). It can for example be considerations of informants which are interesting, or that it will be based on a specific set of theories and methods in order to achieve a desired result. Using ethnographic fieldwork, including participant observation, explorative approach, in a field where we don't from the outset have had an established setup in which the specific empirical data, in the form of e.g. field notes and interviews, physically should be collected in LeoPharma. We have chosen this approach because we want to be open to the field, and what it has to offer, and thus take decisions based on what we observe in the course of the process.

Field Notes

Our participant observation is supported by field notes. Our field notes must be understood as a construction, of what we have seen, heard and experienced in the field. The notes as we took in the field is mainly written as jotting notes. This implies that there be written small keywords which can explain the essence of what we have experienced, and written out when one comes home from the field (Emerson, et. al, 1995). On the way we have been able to focus more on what is happening at the moment, than to spend the time to write detailed and detailed descriptions of the saw while it is happening. The choice of this method helped to ensure that no one other than us have gotten sense out of what we have written. In addition to being a methodological choice, was it also an ethical reflection, due to our responsibility towards LeoPharma (iBid). If you are using jotting notes as the primary method of field notes, however, it requires skill to be able to assess whether it is the most optimal way to do it in this situation. There can of course occur episodes, where it is simply necessary to write down his experiences in more cursive, which we also did at times (iBid).

Interview

As an analytical method for this task chosen to use opinion condensation that Brinkmann and Kvale introduces, in their book; Interview. The purpose of the opinion and the use of the condensation in the task, is to give a shorter formulation of what appears in our interview with informants. On a result on this, we are using the perusal of the transcribed interviews seen on the natural unit and analysed based on some themes, which eventually are linked together in a descriptive statement (Brinkmann, Kvale 2008 s. 228).

Events are contemporary significant since interviewing the actors en these events is where case studies have a unique strength (Yin, 1994: 8).

In this project we collected data of qualitative nature. According to Yin (1994), the advantage of qualitative research methods is to explore the whys and hows of human behavior and experiences. It is the opposite to quantitative methods, which focus on the quantifying numbers, in relation to for instance links or interactions (Yin, 1994: 6-7).

Individual interviews were conducted to get each person's perception of the problems and difficulties they are experiencing in their organisation (Eriksson & Kovalainen, 2008: 24). Due to the fact that the study aims to explore the interviewed person through viewpoints, emotions, conceptions, understandings and perceptions (Eriksson & Kovalainen, 2008: 83). To gather comparable and homogeneous empirical data about the phenomena in focus, we had to chose conduct semi-structured interviews in order to gather materials that: "...are somewhat systematic and comprehensive, while the tone of the interview is fairly conversational and informal" (Eriksson & Kovalainen, 2008: 85).

When we started to design which data we should collect, where focus groups was on of our consideration. That would make the intervieweees come up with new ideas when all talking about it together. But since our aim was to find they personally perception and want them to be honest, we decided to leave it out of our assignment (Brymann & Bell, 2011).

We have collected our data by notes, where we have used the field note methods double entry and jotting.

Choosing the respondents

Thus our research design involves different companies and this influences our choice in interviewees accordingly (See Appendix 1).
First, we interviewed different persons, in different organisations, to gather data about the importance of Human Resource for innovation. We used the different people's point of view, to gain a deeper understanding to be able to answer our research question.

Our multi-case study involves dimensions from management leaders, employees and young students, which was collected to gather data that would allow us, as researchers, to consider different factors and perspectives in relation to the research question, if needed. To get an understanding of the different interviewers roles and perspective, you can see the table in appendix 1, with whom we conducted as interviewers.

Adaptive Logic

Our study of an abductive nature, because it allows us to: "...engage in imaginative thinking about intriguing findings and then return to the field to check our conjectures" (Timmermans & Tavory, 2012: 169).

The purpose of using an abductive reasoning in the project, is to find the best possible explanation for a given observation, by iterating between theoretical concepts and empirical data (Timmermans & Tavory, 2012). This is different from an inductive approach, which looks to create a theory or general rule on the basis of patterns found in different cases. An abductive approach instead focus on finding a new and better explanation for a given phenomenon by coming up with a new logical connection or pattern, but not aiming at creating a new theory (Timmermans & Tavory, 2012). That means that our process starts with facts or observations, which provide the basis for a new idea or explanation of the observations we have achieved, by an abductive way of thinking. Abduction is acreative process of going against existing theories to find new explanations and meaning, to reach an understanding of the facts. Maxwell argues that existing literature may: "... frame your research, causing you to overlook important ways of conceptualizing your study or key implications for your results" (Maxwell, 2008: 227). This means our findings and conclusions will be drawn upon existing knowledge (Timmermans & Tavory, 2012: 170), by using the literature instead of being influenced by the literature (Maxwell, 2008: 227).

Empirical and Literature Review

As written above, the abductive logic rest upon a solid theoretical knowledge and requires familiarity with the existing research (Timmermans & Tavory, 2012). We decided to build our interview guide structure on an overall literature review and further empirical research.

Based on the review we decided on a specific topic and the collaboration empirical research on LeoPharma, Microsoft, Implement, Google and Nordic Hotels was conducted and theoretical framework was used, to determine who the important informants for our study were going the be. Furthermore, we gained information about the companies through desk research, to refine the questions in our interview guide.

In order to gain further empirical knowledge and impressions, we send out a questionnaire to get a deeper understanding and new knowledge to discuss their experiences. The first abductive loop where our theories and existing knowledge is revisited to shape the interview guide after gaining more empirical knowledge.

The interview guides cover our theoretical aspects, as well as topic such as; the strategic vision of LeoPharma Innovation Lab etc.

All of our interviews have been conducted face-to-face, except for the interview with Jonas from Nordic Hotels, which was conducted through Skype, because he lives in Nigeria.

Quality of Research
Alternative casing

Before we can improve the objectivity of the abductive analysis, alternative casing is proposed. Since our study is a multi-case study, it follows an abdutive logic, the data was labelled with codes derived from theory (Eriksson & Kovalainen, 2008) and from empirical findings (Maxwell, 2008: 236).

7.2 Criteria for Judging the Quality of The Research Design

Our project is build on a broad case study. Doing it this way can be characterized as a strategy that makes it possible to examine a problem area with a certain complexity. The case study approach is less standardized than other research designs and interprets our inductive approach. Case studies represent a set of logical fundamental statements, which expose the logical perspective of criteria: trustworthiness, credibility, conformability and data dependability. These tests can be illustrated thus (Yin, 2014, chapter 2):

Design Tests	Case Study Tactic
Construct validity	Identifying correct operational measures for the concepts being studied with focus on definitions and relate them to the objectives of the study, and identify measures that match the concepts, ex citing published studies making the same matches.
Internal validity	Seeking to establish a causal relationship, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relationships. Related to explanatory or causal studies, and trying to explain how and why event X led to event Y, and at the same time awareness of a third factor – Z – who actually may have caused Y.
External validity	Defining the domain and surrounding, to which a study's findings can be generalized.
Reliability	Demonstrating that a study, such as the data collection procedures, can be repeated, with the same results

The four tests are common to all social science methods, and also serve as a framework for assessing case studies in the field of strategic management.

Validity

Maxwell's approach to validity of scientific research is based on, that one of the group members are biased, which might threaten the validity of this paper. For the sake of transparency, we should mention that one of the group members is involved with the company Microsoft, in a consultative capacity. With that in mind, he could point out relevant people for this study, as shown in the choosing of

respondents. Whereas he might have been biased due to his professional obligation to Microsoft (Maxwell, 2008: 234). We note this, because it is crucial to understand our background and experiences as researchers, and how we shape the direction and conclusion of our study (Maxwell, 2008).

Validity is a result of integrity, which we have conducted by group meetings and common interaction during and after the interviews (Maxwell, 2008). The strategy was adopted to deal validity threat of all the data we collected (Maxwell, 2008: 244), that is evolved from the interviews.

When ensuring the validity, we adopted a tactic in this thesis, where we rely on multiple sources of evidence. It has been ensured by interviewing employees of different backgrounds, employment status, positions and point of view. Moreover all of our interviews was conducted by both group members in person, except one which was conducted using Skype.

As Maxwell defines, there might been another validity threat of reactivity. It has been noted that the influence of the researcher at the interviews can never be completely eliminated. The researcher's goal is to understand their influence on the interviewers and use it adequately (Maxwell, 2008). When we were analyzing and discussing the data in the coding process, our focus was on stories and perceptions reported throughout several interviews.

Following the abductive approach, it can be argued that this procedure fostered an open environment, enhanced by the multiple interactions and discussions we as researchers had with each other and the data. Our understanding are created of how the interviewers might have been influenced, and therefore also of how to make responsible use of the data.

Our case studies follow the above principles in the way we have constructed the frame for our cases with identifying a research question. Furthermore these principles above have functioned as our guidelines throughout our empirical work. This research procedure gives us a systematic and reliable opportunity for using our analysis and conclusion to be concrete and be focused on how to answer the research question.

Reliability

Reliability has to do with the quality of measurement (Knowledge Base, 2017a). The idea to ensure, that a later researcher should be able to find the same findings and conclusions (Yin, 2009), when the researcher follows the same practices and methods. The purpose is that reliability should minimize errors and biases. There are four classes of reliability estimates, which estimate reliability in a different way. We use Inter-Rater/Observer Reliability, to estimate our reliability. People are a part of our measurement procedure, which are notoriously known for their inconsistency (Knowledge Base,

2017b)[1]. In other terms, people are easily distractible. In our study, we constantly tried to improve the reliability between the two observers. We held weekly calibration meetings after every observation, to rate the importance of the different aspects on a scale from 1 to 5. Although it was not an estimate of reliability, we improved the reliability between raters. By constantly reflecting and rating our observations together, we have focused on making our results as reliable and consistent as possible.

Ethical considerations

As part of our project, we have had a few ethical considerations. For instance the legal rules on writing a master thesis as formulated by CBS. That includes anonymity and determining such transport by consent and disposal of these materials in our writing master thesis. Therefore we have discussed how we fully and with security can live up to the promised anonymity in relation to our informants as well as the companies they are affiliated with. As interviewers, we have discussed how we can build an ethical research behavior, where we are morally conscious (Brinkmann, Kvale 2008).

In connection with our interpretation of how we are entering the field, it is relevant here to reflect on what ethical concerns technology anthropologist might encounter when operating in a dynamic field. American Anthropology Association has set out indicative guidelines, which you can follow to seek an acceptable ethical standard in one's research (Hastrup, 2009). This concerns, among other things, about openness, to obtain informed consent, but also a clarification of the role you play. The representation of the field is an extremely critical factor. We will reflect on how to stage and re-constructs his experiences as anthropologist, with the technology to respect the researchers (IBID).

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1   *http://www.socialresearchmethods.net/kb/reltypes.php*

3.

Innovation & buisness models

In this chapter we want to give our definition of innovation and explain different types of innovation and their strategic value in meeting the goal of delivering continuous innovation through building an innovation engine or continuous innovation capability. First of all - let's face it, the word "innovation" means nothing on its own anymore. We use the word so much-R&D, technology innovation, business process innovation, business model innovation, product innovation, etc. - that the core of its meaning has been lost or blurred, even though it actually has substantial implications for innovation strategy (Osterwalder, 2016).

There are substantial differences between incremental, sustaining and efficiency innovation versus growth innovations. A car company that produces a new car, rarely expect substantial new growth, but mainly to sustain current sales by replacing older models. Growth innovations are ones that have the potential to create completely new businesses, growth engines, for the company and are more radical. This is what Amazon did with Amazon Web Services, where a new business model transformed the company and is driving growth. These different types of innovation activities have substantial implications for strategy and for what kind of an organization they fit into, because different kinds of innovation, require different approaches to achieving it, dependent on their different strengths and weaknesses and the overall goal of the organization.

The innovation activities a company can engage in, exists on a spectrum, that ranges from exploiting an already established and successful business model to exploration of new horizons and business models that can generate substantial growth for the company in the long term. Exploitation involves efficiency and incremental innovations, that sustain the company's revenue. Examples of this are cost cutting, outsourcing, new products that replace old ones and so on. Most companies are setup to handle this pretty well. On the other hand, the exploration side of the spectrum, create new business models. Many established companies are rarely able to create these types of innovations, as they break the established culture, processes etc. that work on the exploit side. They require a different set of tools, that are most often found in startups, than i large companies. There are then three basic objectives of innovation: to increase efficiency, to sustain an established business through new products and finally, experimentation with new business models that create growth (ibid.).

Innovations on the exploitation side of the spectrum are generally easier for established companies to engage in, as they fewer unknown variables and a lot less uncertainty. There is historical data that shows what works and what hasn't. You don't change the business model, you just improve it. This can be performed with a short term outlook, whereas exploration usually requires a more long term orientation. When it comes to growth innovations, there is less data to rely on and what is there is mostly useless. There are a lot more unknowns you have to deal with and as a result, the uncertainty is a lot higher, which also means the risk of failure is also more significant (ibid.).

Companies therefore, need to supplement traditional R&D that focuses on technology and product innovations, with a new focus towards business model R&D. New technology can still play its part, but it has to integrated and developed in tandem with new business models. If you do not succeed in understanding the customer needs, it's unlikely that new products based on technology, will be successful.

Taking this further and trying to develop a management process for innovation, we also need to move beyond innovation as creativity and the myriad of other fuzzy definitions. Innovation in its

broadest sense is often defined as any novel creation that produces value. This of course involves creativity in generating new ideas, but to create value it must move beyond post it notes and brainstorm sessions. We have to ensure that customers actually want it and that it creates value for them, but importantly also for the company - this requires searching for and finding a sustainable business model. With this in mind, our definition of the kind of growth innovations we want to promote is: *The creation of new products and services that deliver value to customers, in a manner that is supported by a sustainable and profitable business model.*

This definition should help clarify the role of innovation when it comes to growth. It's about more than just new products or services, although they are a part of it, innovations will have to produce sustainable business models, which means they meet real needs of customers and deliver value for them. But they must of course also be profitable for the innovators. Both elements have to be present and in alignment before we can consider it a new growth innovation (Tendayi et. al, 2017).

The design of a business model reflects hypotheses about what customers want and how the company can deliver to those needs, while getting paid. They outline the features and technology of the product or service, how revenue and cost structures are aligned to meet these needs, the customer and market segments you want to target and how the value is captured by the company. A business model then, outlines the organizational and financial architecture of a business. "Generally there is a plethora of business models that can be designed and employed, but some will be better adapted to the ecosystem than others. Selecting, adjusting, and/or improving the business model is a complex art." (Teece, 2009).
This requires making assumptions about customer and competitor behaviour and of revenues and costs. Once necessary adaption of these assumptions are made, it also defines the go to market strategy.

This might seem like a straightforward task, designing and validating business models, but this is not so. Entrepreneurs have to make hypotheses, guesses really, about a number of different factors as we have mentioned. Assembling evidence that can validate or invalidate his hunches about everything from competitors, customers, costs, distributors, suppliers and so on. Validating a business model requires both lots of effort and good judgement (ibid.).

The lean startup
Too many startups begin with an idea for a product that they think people want. They then spend months, sometimes years, perfecting that product without ever showing the product, even in a very rudimentary form, to the prospective customer. Therefore we use this chapter to address the importance of validating your hypotheses within your business model through learning. We also want to illuminate how the lean startup model provides a structured way to develop better judgement.

When businesses fail to reach broad uptake from customers, it is often because they never spoke to prospective customers and determined whether or not the product was interesting. When customers ultimately communicate, through their indifference, that they don't care about the idea, the startup fails (Eric Ries, 2017).

This lead us to The Lean Startup methodology, which provides a scientific approach to creating and managing startups and get a desired product to customers' hands faster. The Lean Startup method teaches you how to drive a startup-how to steer, when to turn, and when to persevere-and grow a business with maximum acceleration. It is a principled approach to new product development (ibid.).

The first step is figuring out the problem that needs to be solved and then developing a minimum viable product (MVP) to begin the process of learning as quickly as possible. Once the MVP is established, a startup can work on tuning the engine. This will involve measurement and learning and must include actionable metrics that can demonstrate cause and effect question (ibid.).

4 principles of The Learn Startup (ibid.)

1. **Entrepreneurship is management** - a startup is an institution, not just a product. That means it require management and a new kind of management specifically geared to its context (Eric Ries, 2017).
2. **Validated learning** - Startups does not exist to serve customers and make money. Startups exist to learn how to build sustainable businesses, which learning can be validated scientifically, by running experiments that allows you to test each element of your vision.
3. **Innovation Accounting** - To improve entrepreneurial outcomes, you need to focus. How to measure progress, how to set up milestones and how to prioritize your work. That requires accounting for the entrepreneurs (innovation KPIs).
4. **Build-measure-learn** - The fundamental activity of a startup is to turn ideas into products, measure the customers responds, and then learn whether to pivot or persevere. All successful startup processes should be geared to accelerate that feedback loop.

Problems arise however when trying to manage two business models at the same time, because they require different and rarely compatible value-chain activities. Porter (1996) identified numerous incompatibilities or trade-offs facing companies that run dual business models. For instance, a company might simultaneously risk damaging its existing business, confusing its customers, alienate various stakeholders and not even succeed with the new business model. This is a difficult task, but certainly not an impossible one. This is the logic that led Porter to propose that the strategy of competing with dual strategies will, on average, lead to inferior performance (Markides, 2013).

To solve this problem, the primary solution offered is to keep the two business models physically separate in two distinct organizations. This idea of physical separation as the solution to this issue, has originated in the literature on technological innovation and is now widespread in the ambidexterity literature (ibid.).

Ambidextrous Organization

There are different approaches to achieving ambidexterity: structural/simultaneous, contextual, temporal/sequential. We present each of these in this chapter, as we take a look at the debate around a structure for innovation - can it coexist with the mature side of the business or does it require separate physical structures - or perhaps separation in time? Does ambidexterity increase firm performance? And under what conditions are each approach prefered?

Tushman and O'Reilly proposed in 1996, that organizational ambidexterity, which they defined as; "The ability to simultaneously pursue both incremental and discontinuous innovation…from hosting multiple contradictory structures, processes, and cultures within the same firm." Was a necessary requirement for long term firm survival (O'Reilly & Tushman, 2013).

This term, organizational ambidexterity, refers to the ability of an organization to both explore and exploit. That is, to compete in mature markets, with mature technologies, where efficiency, control, and incremental improvement are the locus of operation and to also compete in emerging technologies and new markets where flexibility, adaptability, autonomy, and experimentation are needed.

One of the big insights from organizational studies, is the observation that different organizational forms and structural alignments are connected with different strategies and environmental conditions. For instance, in a seminal study of innovation, Burns and Stalker (1961) noted that firms operating in stable environments developed what they referred to as "mechanistic management systems" that were characterized by clear hierarchical relations, well-defined roles and responsibilities, and clear job descriptions. In contrast, firms operating in more turbulent environments developed more "organic" systems with a lack of formally defined tasks, more lateral coordination mechanisms, and less reliance on formalization and specialization (ibid.).

Taking this insight further, researchers of organizational adaptation argue that, for firms to succeed over the long-term and in the face of environmental and technological change requires them to change these structural alignments. Strategy informs the structure, as structure also shapes strategy - it's a reciprocal relationship. To change one, is to change the other in some way. In 1991, James March noted that the fundamental adaptive challenge facing firms was the need to both exploit existing assets and capabilities and to provide for sufficient exploration to avoid being rende-

red irrelevant by changes in markets and technologies. March views exploitation as about efficiency, control, certainty and variance reduction, while exploration is about search, discovery, autonomy and innovation.

Achieving a balance between these efforts, proves difficult because of an inherent bias that favors exploitation, choosing certainty and short-term outcomes, over exploration that is by its nature, uncertain, inefficient and is associated with an unavoidable increase in the number of bad ideas. The problem is, that without some energy put toward exploration, firms that face change in the environment, are likely to fail. Having sat idle, while the future passes them by. March's observation has led to a massive amount of empirical studies exploring whether ambidexterity is, as the theory suggests, associated with superior organizational performance and survival, whether ambidexterity is, as originally suggested, accomplished through physically separate units or via other means, under what conditions ambidexterity seems most useful, and how ambidexterity is actually achieved.

Looking at the empirical evidence, it seems to suggest, that under conditions of market and technological uncertainty, ambidexterity typically has a positive effect on firm performance. In a study of 500 companies over a 10 year period, Goosen, Bazzazian, and Phelps (2012) showed that firms with greater technological capabilities benefitted more from ambidexterity. It has also been shown that it is typically more valuable under conditions of environmental uncertainty, with increased competitiveness, when a firm has more resources, and for larger firms.

A broad view of the literature seems to show three main conclusions:
1. That ambidexterity is positively associated with firm performance.
2. These effects are often contingent on the firm's environment. Ambidexterity has a greater effect under conditions of uncertainty and when a surplus of resources are available, which is often the case in large and not small firms.
3. The evidence is that either the under- or over-use of ambidexterity comes at a cost. Uotila and his colleagues (Uotila, et al., 2008), have estimated that 80 percent of the firms they studied under-emphasized exploration and over-emphasized exploitation.(O'Reilly & Tushman, 2013)

We will in the following section present the three overall approaches to achieving ambidexterity as well as the potential benefits and negatives of each.

Sequential ambidexterity
In 1976 Duncan proposed the idea, that to accommodate the conflicting alignments necessary for both innovation and efficiency, firms would need to shift their structures over time to align the structure with the company's strategy. In his view then, organizations would achieve ambidexterity in a sequential fashion, by shifting structures over time.

When faced with change firms realign their structures and processes to adapt to changing environmental conditions or a new strategy. This view can be found in many firm histories and in early studies of organizational adaptation. Temporal shifting has, more recently, been proposed as a way for firms to be ambidextrous, in which they oscillate back and forth between periods of exploitation and exploration. This process is referred to as "vacillation" by Nickerson, and Zenger (2012) and they argue that it's easier to switch between formal structures, than it is to change the informal elements of an organization and its culture (O'Reilly & Tushman, 2013).

Siggelkow and Levinthal (2003) have demonstrated the advantages of organizational forms that start out decentralized, but become centralized over time. During exploration-intensive stages of development, structural forms that emphasize autonomy tend to outperform structural forms that emphasize coordination. This led Puranam et. al (2006) to argue that a firm needs to synchronize the shift in organizational emphasis, from exploitation to exploration, with stages of technological development.

Simultaneous or Structural Ambidexterity

Utterback (1994) argued that established firms can gain a foothold in markets generated by a radical technological innovation by setting up autonomous, independent units to exploit the organizational flexibility and entrepreneurial spirit required to succeed in the new environment. Utterback claims that: "the task of creating the competencies needed to successfully bridge into chosen markets hinged on creating organizations with clear mandates and a great deal of independence from the staffs, committees, and other encumbrances of their parent companies" (p. 229).

Tushman and O'Reilly argued that in the face of rapid change, sequential ambidexterity might be ineffective and organizations needed to explore and exploit in a simultaneous fashion. They suggested that this could be accomplished by establishing autonomous explore and exploit subunits that were structurally separated. Each of them with its own alignment of structure, people, processes and cultures, but with targeted integration to ensure the use of resources and capabilities. (Tushman & O'Reilly: 1996)

Furthermore there is another way, which is proposed to balance the exploration/exploitation trade-off, is through the simultaneous pursuit of both using separate subunits. This approach is typically characterized as structural ambidexterity but, as O'Reilly and Tushman (2008) noted, this "entails not only separate structural units for exploration and exploitation but also different competencies, systems, incentives, processes, and cultures—each internally aligned (p. 192)." These separate units are held together by a common strategic intent, an overarching set of values.
This is in essence a leadership issue, which we will show later in the Chief Entrepreneur chapter.

This idea has immediate applicability in the business model context. Within this context, temporal separation would mean that a firm could start out by putting the new business model in a separate unit but reintegrate it in the main business over time or it could start by putting the new business model within the existing business but instead separate it over time (Markides, 2013).

There are obvious implications for those who research business models. To manage two conflicting business models simultaneously, an organization needs to ask and answer the question: "What organizational context do I need to put in place to allow my people to achieve an appropriate level of balance between the conflicting demands they are facing?"
If we define organizational context as the firm's culture, values, structure, processes, and incentives as mentioned previously, this question makes it abundantly clear that the existing literature on business models has been looking at the issue of competing with dual business models in a narrow way. Specifically, the existing literature has focused primarily on structure to manage this dilemma, when in fact we should be looking more broadly at all the elements that make up the organizational context (ibid.).

When managing two business models simultaneously, the firm has to design a context that will allow it to achieve a delicate balance: First of all, it has to create enough distance between the two business models that they don't suffocate each other; Furthermore, it has to keep them close enough to exploit synergies between the two. Such a balance can never be achieved if the new business model is kept totally separate from the established one. It can be achieved only if the firm thinks creatively about what specific activities it needs to separate and what activities not to (ibid.).

Contextual Ambidexterity

While both sequential and structural ambidexterity propose a structural solution to the exploitation/exploration tension, contextual ambidexterity approaches design some features of the organization, so that they encourage organizational members to decide themselves how they divide their time between the two. This is achieved by a set of systems or processes that permit and motivate these members to allot time between the two tensions (O'Reilly & Tushman, 2013).

Google are one of the companies who knows the importance of investing your time between exploratory and exploitative activities. When interviewing the former HR-manager at Google Dublin, David Sandberg Larsen, claims that:

"You could get allocated time if you had a good idea. Social recognition is the heart of Google. We focused on a bottom-up strategy. Values are the strongest. A large family where you are always welcome in the whole world and if you have an idea to change an existing market or something else, you could go from

one project at one day - to another the next day." (Sandberg, interview)

Contextual ambidexterity is conceptually relatively easy to imagine the benefits of, when operating within a given setting or technological regime, but more difficult to see how it allows a company to adjust to disruptive technology or changes in markets. "For example, the decision to compete in the digital space required significant restructuring and the reallocation of resources. Such decisions cannot be left to the discretion of lower level employees but, at some point, required senior managers to provide the resources and legitimacy to the new technology. Similarly, given the new skill sets required, it seems unlikely that individual employees would possess the technical capabilities necessary without the approval and investment of senior management." (O'Reilly & Tushman, 2013).

A key shortcoming of contextual ambidexterity is that "it does not really consider how a firm can simultaneously conduct radical forms of exploration and exploitation. It simply assumes that exploratory knowledge is produced somewhere and is available for use." (Kauppila, 2010: p. 286)
Within a given business unit or project, it is easier to envision how contextual ambidexterity might permit limited exploration and exploitation. Furthermore in a study of ambidexterity at the project level, Burton found that a separation of exploratory and exploitative projects are associated with improved project performance and that the misalignment of management systems degraded the performance of exploratory efforts (Burton, et al., 2012).

It's interesting to note then, that Google has moved away from their famous 80/20 rule, to a more focused innovation (exploration) strategy.

Summing up
Each of these ways of achieving ambidexterity were initially proposed as separate ways to
deal with the need for exploitation and exploration, the evidence clearly suggests that all three
are potentially viable. In depth studies often illustrate how over time firms may use combinations of these to balance exploitation and exploration. For example, Raisch and Tushman (2013) found that incumbent firms created new business by initially employing structural ambidexterity and switched to integrated designs when the exploratory unit achieved political and economic legitimacy. Similarly a study of design firms over time found that those most successful firms initiated exploration and exploitation via structural ambidexterity (which lead us back to the three Horizons, and in this context from H1->H3), switched to contextual(H3->H2) ambidexterity, and switched back to structural ambidexterity over time (H2->H1).

The reality is that organizations typically face a variety of competitive markets and that
these will vary in the rates of exploration and exploitation required. These three different ways of achieving ambidexterity, may be more or less useful depending on what kind of markets they face.

A simultaneous approach may be more appropriate in dynamic markets where conditions are changing, while in more stable environments firms may be able to afford a sequential approach. We have already presented our view, that more and more markets are showing characteristics of more dynamic markets, more competition and a faster pace of change. As well as the observation that more and more companies are creating innovation labs, also lending credence to the structural/simultaneous approach in practice.

"Realistically, it may be that time is a crucial contingent variable. It appears that structural ambidexterity is crucial in creating the context where incumbent firms can explore in the context of their existing strategy and history. However, once the exploratory units gain traction, firms may take advantage of this capability by switching into more integrated structures ." (O'Reilly, Harreld & Tushman, 2009).

"Ambidexterity is not only about striking a balance, but importantly also about developing the capabilities necessary to compete in new markets and with technologies that enable the firm to survive in the face of changed market conditions. Its then to be found in the ability of the organization to leverage those assets and capabilities it has developed in the mature side of the business and use them to gain a competitive advantage in new areas. Thus avoiding the dangers of unrelated diversification." (O'Reilly & Tushman, 2013).

In a study exploring how newspapers adjusted to digital media, Gilbert (2005) found that the problem was not the allocation of sufficient resources/investment, but the failure of the organization to change the processes necessary to use these resources effectively.
To be successful at ambidexterity, leaders must be able to orchestrate the allocation of resources between the routine and new business domains. Applying the lens of the three horizons model, might help alleviate some of the challenges by providing a shared language and framework.

It also appears that organizational culture and identity may be an important strategic capability in hosting ambidextrous designs over time. The organizational culture that promotes a common identity and success in one domain may be misaligned when pursuing a new strategy. How can firms and their leaders promote new cultures and identities that accommodate exploration and exploitation; how can they take advantage of their history even as they move to different futures?

Regarding the issue of how to achieve ambidexterity, either sequentially, physically, temporally or contextually, we believe that a physical separation is the most appropriate for several reasons, these being: Its easier to design the right organizational context (culture, incentives, processes and structure) when you start from scratch. And as we have already argued, more and more environments are turbulent. Innovating a new business model alongside the existing one, requires a delicate balance, but the degree of separation and when to integrate and exploit synergies is tough to make prescrip-

tions for.

However, a clue can be found in the three horizons perspective, as well as Steve Blank's distinction between executing a known business model and searching for a new business model. When creating something entirely new, you are operating in the third horizon, searching for a business model that works, but as you start to find product/market fit and begin to scale up, you move into the second horizon, where integration becomes very important.

In essence, the proposed changes and perspectives we will present and discuss, would have to follow an organizational restructuring. The organizational design of this new structure would have to take into account the need to at the same time exploit existing core capabilities through incremental innovations financed through an internal capital market resource allocation method, but also implement an organizational structure that is focused on the future, experimenting with new business models, value propositions, and developing new technologies. This part of the organisation is financed through a model more akin to how a venture capitalist invests in startups.

4.

Organizational design & management processes

This chapter is about structuring the organisational context and how to treat the organizational design and complementary management systems as strategic resources. What and how changing organizational structures and designs can influence and what needs to be considered when doing so. The following is based on Innovating Organization and Management by Nicolai Foss et. al (2012).

Organization and management systems are treated as key strategic resources, by a lot of firms. These firms view their organization and management processes as more than just enabling strategy. They recognize that there is more to it than implementing efficient ways of organizing resources already controlled by the firm. They see these structures as a way to develop those resources that are going to enable them to compete in the future. Organization and processes are more than just passive facilitators of strategy, they are part of the strategy.

"...organization also plays a role in fostering the learning, exploration, and innovation that leads to new strategic resources. The introduction of such a perspective implies a shift in focus from the firm's given portfolio of resources to the need for dynamic capabilities that allow an organization to adopt, develop, and maintain organizational designs and management processes that will provide it with a competitive edge." (Foss et. al, 2012)

An organization's design and management processes can be thought of as sources of new learning, that may spawn new capabilities, that the organization can then build new strategies around. This means that these resources can be a source of competitive advantages by themselves, but importantly also because they are a part of the creation of new strategic resources.

In order to offer for resources to offer a sustained competitive advantage, they must be valuable. Generally speaking, this can be thought of as like this, the resource must enable the exploitation of an opportunity or help neutralize a threat in the environment. They allow the firm to create value. This means that valuable resources allow the firm to sell products at a low cost or at a premium to willing buyers. Valuable resources that are in abundant supply, will quickly be acquired by other firms and implemented in strategies that are almost identical to those of the successful firm it's trying to emulate, causing prices for these resources to go up as well. This means that value creation activities from these resources quickly goes down to breakeven level. To sustain competitive advantage, the resources must therefore also be rare. But even so, they might still be imitable. Imitability is related to costs, so for a resource to qualify as strategic, it must be valuable, rare and costly to imitate. It should be exceedingly expensive for other firms to build resources similar to what you have. Finally, the resource must be costly to substitute, that is, immensely expensive to implement a similar strategy with other resources. Superior performance then, rest on resources that are valuable, rare and costly to imitate and substitute, as showed:

"Strategic management scholars have argued that resources that have arisen through historical processes unique to the individual firm, that are socially complex, and that embody "tacit" knowledge (i.e., knowledge that is costly to articulate) are those resources that are most likely to meet these criteria." (ibid.)

As this doesn't really tell us much about how to build and modify capabilities, it is perhaps more use-

ful to focus on how concrete resources are affected by organizational design and management processes. These processes and structures are often better understood and easier to change, than the capabilities and competences they affect. Organizational design refers to the choice organizational structure, roles, metrics, rewards and talent matched to the right roles. Said differently, it defines the structure and boundaries of a firm. Management processes then, refers to among others planning, control and coordinating functions.

To gain a better understanding of how these different resources and capabilities are part of and interact with organizational design and management processes, moving beyond the idea that firms are merely bundles of resources and capabilities, gains a different perspective. Although they are stocks that can yield a flow of services, these do not automatically appear or are deployed to production. They have to be called forth and coordinated, to yield diverse services from diverse resources.

"To call forth services and to coordinate and deploy them across various activities is the purpose of a firm's organizational design and its management processes. This somewhat static purpose is traditionally seen as the main purpose of organization and management, but the upgrading of a firm's portfolio of resources and capabilities, and the services they can yield, is also orchestrated through the firm's organizational design and management processes." (ibid.).

This requires motivating and incentivizing employees, defining tasks and determining which services are needed and when, internal division of labor has to be defined, to make optimal use of management services, authority has to allocated across the organization.

How does this perspective fit into our understanding of differential corporate performance? The question we should ask then is: Is it possible for the competition to emulate these organizational design and management process innovations? If it's possible that over time, the design and processes that give a firm an advantage can be imitated, that advantage is not a sustainable one. So even though they enable the firm to have a high level of value creation, a lot of the value cannot be appropriated without the design and processes being difficult to imitate. If they are the result of long and complex incremental improvement process however, they may be very difficult to replicate. If they have appeared virtually overnight, replication could also prove very difficult, because it is a radical departure from the norm, that requires cultural beliefs in support of it. A way to maintain the competitive edge then, is to continually upgrade or change the organizational design and management processes.

Gaining and maintaining an advantage or performance success, is characterized by extreme complexity and significant uncertainty. Cultural factors such as, belief systems, behavior internally and externally and the role of the organization, are a significant portion of this. Trying to change the design and processes can be constrained by strong values and beliefs, making certains things impossible

to change because of the culture, although it sometimes can also help facilitate change. Attempting to change the culture, should therefore always accompany organizational changes. This can be an enormously complex and uncertain process, that is much harder to influence and predict, than the more tangible changes that can be done with organizational design and management processes. This makes the cultural aspects even more important for us to understand in this thesis. Therefore we will later analyze the differences between a traditional corporate execution/exploitation culture and the innovation culture we want to foster.

The ways in which we think about and describe organizations depend on what we are trying to explain. Strategic management often treat organizations as "bundles of resources". Taking this perspective further, we need to understand how these resources present themselves in the organizational structure and managerial processes, as we are trying to understand how these can be changed to influence the kind of entrepreneurial, experiment and learning organizations, that can build innovation capabilities. And the reasons why innovation labs often don't accomplish this goal.

Organizations are fundamentally a collection of individuals, who have different goals, preferences, expectations and motivations, but are nonetheless jointly engaged in achieving the goals of the organization. The level of engagement being dependent on a number of factors, such as motivational mechanisms and the division of labor. It's fair to say that all organization theory starts with this idea. Building on this, decision rights over the use of resources are held by different organizational members. These rights are basically authority over a given decision domain that has been granted to one or more organizational members. This could be an R&D manager, who without getting permission from higher-ups, can make decisions within a specified budget. In a addition to decision rights, organizational members also have income rights and receive remuneration in exchange for their efforts. Changes in organizational design and management processes are often changes in the rights to decide over the use of resources as well as changes in income rights (ibid.).

Decision rights are constrained by a number of things, standard operating procedures, job descriptions, and organizational charts stipulate formal delineations of rights, but corporate policies and value statements also help define rights. These define what organizational members have the right to use specific corporate resources, when they can use them, and where they can be used. There are also significant informal elements to this, as members hold views about their own rights and entitlements, and about the rights and entitlements of other organizational members. These views are an integral part of organizational culture. In fact, these views are essential to organizational belief systems. By showing employees and outsiders "how we do things here", organizational behavior and culture provide further delineations of rights. Income rights, broadly reward systems, consist of bonuses, promotion procedures and wage structures. For this to function properly, you have to monitor employee or organizational unit performance. This view of organizations focuses on how organizational design

and management processes are really about the correct allocation of rights. Innovations in organizational design and management processes amount to new ways of structuring decision and income rights. These could be, new configurations of and coordination of the internal division of labor, new employee rewards programs (income rights), new methods for measuring performance, new ways of allocating decision rights and new SOPs.

These rights matter because they determine the "opportunities that organizational members face (with whom can one interact? Where? When? What can be done with corporate resources?) and because they provide incentives (i.e., income rights), which influence the motivation of organizational members." (ibid.). A members motivation for engaging in training and improving their abilities, can also be influenced by this. Motivation, opportunities and abilities then bring about employee action, the aggregate of which we refer to as firm activities, such as pursuing certain strategies.

"The extent to which employees will specialize relative to the firm (that is, show "loyalty") depends on their sharing in the surplus generated by the firm - their income rights. In other words, the amount of value that organizational members expect to appropriate influences the effort they will contribute to the firm and the investments they will make in that regard." (ibid.).

Management innovations then increase the creation of value, by new ways of coordinating activities and motivating stakeholders. This doesn't mean that all management or organizational innovations create value, there is no guarantee of success when reconfiguring organizations, regardless of novelty of what is introduced. As with innovations in technology, 100 failed attempts may be tried before finding one the works. Whereas companies can often experiment with and test technological innovations on a small scale, partial adoption or testing of management and organizational innovations are rarely feasible, as they are typically more systemic in nature, and their implementation is more costly and disruptive for the organizations involved, compared to technological innovations. This is why why these innovation create value and how they are implemented successfully, before deciding to make a change, that much more important.

5.

Innovation Labs

Following our previous chapters on ambidextrous organization and organizational design, we will show how innovation labs serve as a separate structure for innovation (exploration) in corporations and some of the problems Innovation Labs face.

What are Innovation Labs actually for - and where are the entrepreneur in this sentence? And furthermore; which strategies are successful?

How well does the exchange between the company and the innovation lab work if we include the integration?

Innovations labs have become a mainstay of the innovation scene. (ssir.org) NGO's, think tanks, city administrations and of course multinational corporations using Innovation Labs to foster systemic change. Innovations labs have resonance in and across different fields. Finance Innovation Lab from London, has the aim to create a system of finance, which tries to benefit "people and planet". If we look at the Danish MindLab, it helps the government to co-create solutions for better social services. The American eLab search for a future within the electricity sector. There are dusins, hundreds and actually thousands of different initiatives around the world within various industries (ibid.).

Even though there are thousands of different innovations labs, they have some specific challenges: *"Innovation labs are regularly knocked because they often don't have clearly defined links to specific business strategies or goals."* (ibid.).

10 dimensions of Innovation Labs

There is a little clarity on their core values, features and definitions. Stanford Social Innovation Review (ibid.) research on innovations labs building on observations, qualitative interviews with founders and leaders of 30 innovations labs around the world, want to clarify the logic of modern innovations labs. This more-nuanced and analytical approach are set to unpack the 10 dimensions of what innovation labs are about (ibid.).

1. Imposed open-ended innovation themes

Innovation labs (INlabs) impose a broad innovation topic, often in a top-down manner. INlabs contribute from a different variety of sources, which is because they serve as instruments of larger organisations or networks - sometimes including national innovation agencies. Labs intentionally leave room for further specifications of a focal problem (iBid). Quartier Stuff, which is a laboratory for urban innovation, are an example of this. "Shape your district" was used to kick off their community innovation lab, where they after collecting suggestions on how to co-create the district from local inhabitants, workers, and visitors finds focus challenges (iBid).

2. Preoccupation with large innovation challenges

Innovation labs aim is pretty simple - create breakthrough, innovative solutions to solve major problems. As UI LABS from Chicago states (uilabs.org: 2017): "Addressing problems too big for any one organization to solve on its own".
Furthermore, Finance Innovation Lab want to devising alternative business models and if we take a look on InSTEED iLabs, they work towards solving large health, safety and development problems (ssir.org: 2016).

3. Expectation of breakthrough solutions

When it comes to innovation labs, they try to pursue disruptive innovations. Instead of settling for

incremental innovative improvements, innovation labs is typically delivering breakthrough solutions and try to create places where 'today's moonshots become tomorrow's breakthroughs' (ibid.).

4. Heterogeneous participants
Across the boundaries of professions, industries, and cultures, innovations labs engage a wide range of participants, and bring people that don't usually work together. Finance Innovation Lab uses phrases such as "a diverse community", InSTEDD iLabs uses "multidisciplinary dialogue, cross-sector partnerships", to describe their diversity where their end goal is to expect a fuel collective creativity (ibid.).

5. Targeted collaboration
Innovation labs typically have a problem focus, which are generated by the collaborative technologies and dynamics to draw solutions. iLabs for instance are based on "cross-sector collaborations that bring people together", and eLab "focuses on collaborative innovation" (iBid). With that in mind, the approach extent that regardless of institutional power differences, all participants should treat each other as equal partners (ibid.).

6. Long-term perspectives
"Discovering the future" are terms that innovation labs often are framed as. Quartier Stuff as earlier mentioned, aims to "innovate … to ensure long-term social cohesion and high quality of life" (ibid.), which leads a freedom from immediate results to create space for free thinking and activities as horizon scanning, foresight scenarios, strategic planning, and emergent signal analysis (Strategic Innovation Lab, 2016).

7. Rich innovation toolbox
A wide range of methods and tools are the foundation of innovation labs. Tools to stimulate creativity, guide discussions, moderate collaborations, which are as well as develop, prototype, and experiment solutions (ssir.org: 2016). As inCompass complains the role is to "bring together the brains, methodology, and diverse tools for innovation". Quartier stuff toolboxes includes design thinking and open innovation, Nesta's Innovation Growth Lab randomized controlled trials, Finance Innovation Lab crowdsourcing, and inCompass want human-centric design (ibid.).

8. Applied orientation
To develop tangible solutions, and not only ideas are what labs intend to. Thus, they seek to remain active through the innovation process. According to the german InnovationLab, labs are "application-oriented", whereas Civic Innovation Lab point out that "dedicated to the development of real solutions" (ibid.).

9. Focus on experimentation

According to MaRs Solutions Lab, innovation labs want to "create space for experimentation through facilitated processes", where they encourage participants to start thing on a small scale, take risks, prototype, test and accept failure as a part of the progress (quartierstuff.lu: 2017). Furthermore innovation labs should re-invent their own methods and approaches (ssir.org: 2016).

10. Systemic thinking

The last step of what categorizing an innovation lab is according to Cooms Lab co-founder "a space … for people who represent a system and … who are influenced by a system to come together … and co-create." (www.thecommslab.com, 2017). As Finance Innovation Lab claim, they are "rethinking the system" or as UI LABS claim "transform entire industries", which makes it impossible to conceive innovations labs as we know today separately from the discourse on systemic change (ssir.org: 2016).

To reflect on what an innovation lab can be defined as, Stanford Social Innovation Review conclude the following: *"An innovation lab is a semi-autonomous organization that engages diverse participants - on a long-term basis - in open collaboration for the purpose of creating, elaborating, and prototyping radical solutions to pre-identified systematic challenges."* (ibid.).

The Entrepreneurial Lab - what's in it for me?

The advantage of being an entrepreneur in Innovation Labs is the commitment to bring people together, and an expectation that great things can happen as people discover one another and advance their ideas. Harvard Business School founded back in 2011 Harvard Innovation Lab, which was meant to help students to work on problems like improving maternal and infant health.

In the new lab, according to President Drew Faust. Within the lab are a couple of dozen meeting rooms, a classroom, and a workshop to build prototype device. The main value proposition for the entrepreneurial minds is to: *"Gathering great minds under a single roof, so they can become greater together."* (Harvard, 2012).

Harvard Innovation Lab is not a center or institute, according to Gordon S. Jones, the lab's professional director. The point is not to create a new curriculum or program, but to bring together and accelerate innovative and entrepreneurial energies from throughout the University. Unlike entrepreneurship centers elsewhere, Jones said, the Harvard lab does not charge rent or extract ownership interests in user ideas. It is uniquely broad, and anti-"silo"—not tied to just the business school, or engineering—and therefore welcoming of entrepreneurial ideas in any realm (social innovation for education, health policy, better governance, et cetera). The entire impetus, he said, is "student-centered, faculty-enabled, and faculty-authorized." (ibid.).

Professor of management practice, Joseph B. Lassiter who is faculty chair of the lab has a clear vision

of their I-Lab: *"People can try out their ideas and see if they are worth putting to use"* (ibid.).

When interviewing Eva Kristiansen from Microsoft on how they measure performance, she claims that it has been a strategic priority to include the freedom to explore and develop something new. Microsoft have 12 global developers centers around the world, where one of them are located in Denmark, more preciously Lyngby[1]. The developer center in Denmark, are designed by Henning Larsen Architects with lots of input from their own employees on how to best support agile work flows and team collaboration, innovation and community engagement. The employees are measured by Business Impact, with 3 different career tracks within Microsoft. All employees have the opportunity to be innovative within their professional area, as Eva Kristiansen claims: *"Everyone at Microsoft Denmark have one week each year to develop something new."* (Kristiansen, interview).

What goes wrong

Furthermore it is interesting to find out, why innovation labs are failing, and how you can learn from them. The collective camp from the United States have made 5 different steps to prevent innovation labs from failing (Namdarian, 2017). We will take a look at them in this section.

1. Lack of Vision and Objectives

Identifying the need to invest in innovation is a first step in the right direction. However, it is imperative to develop a clear and compelling vision and objectives prior to establishing an innovation lab. Why is the lab being created? Are you looking to use it as a tool to collaborate with clients? Is the lab going to be focused on digital technologies, acquiring new resources and expertise or testing new business models? Will it be a combination of different objectives? Answer questions like these before proceeding (ibid.).

2. Succumbing to Innovation Theatre

Bean bags, ping pong tables, huge screens, colourful walls - all great but they don't make an organisation innovative. Going to work in jeans and a t-shirt doesn't make you innovative either. Spend less time mimicking startup culture and focus on getting the job done, or as said startups would say, getting sh*t done. Everything short of moving the needle on innovation is just theatre (ibid.).

3. Picking the Wrong Team

An innovation lab is only as good as the team working in it - the right team are essential for your lab to succeed. Try and avoid selecting someone internally to head up the lab. Hire externally to bring in a new perspective and someone who is not tied down to the current workings of the larger organisation. By putting someone in charge who has a proven track record, they will hire wisely and ensure diversity in the people joining the team.

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1   *850 employees, where 300 of them are engineers.*

At no point should you select someone to head up the lab who already has a full time role in the organisation. This needs to be a full time role, not a novelty title one can talk about in their annual performance review (which by the way, should be an ongoing process but that's an altogether different story) (ibid.).

4. Failing to Track Success
Like anything else in life, if you don't set targets or KPIs then there is nothing to aim for - but chose the right KPIs. Innovation labs are no different. It is common to see innovation labs progress without measurable or meaningful KPIs. Look to assign non-traditional KPIs, for example, the number of experiments run, the number of new business models explored or the percentage of failure. In true startup style, continue to iterate and make adjustments based on learnings (ibid.).

5. Excluding the Rest of the Organisation
It is common for a divide to be formed between innovation team members and the rest of the organisation. When the wider organisation is excluded from the innovation journey, the result is not only discouraged employees but also starves the innovation team of valuable employee insights. Educate the organisation on the vision of the lab and how it will be used. Run initiatives and events for the wider organisation to give every employee an opportunity to participate (ibid.).

With the demise of power brands such as Blockbuster, Kodak and Nokia, organisations are identifying the need to do something different. Innovation labs are often seen as a silver-bullet solution. Opening up an innovation lab will not guarantee protection from disruptive startups, but if executed correctly can radically increase your likelihood of success." (ibid.).

The evaluation was made along six success factors, including support of top management, the balance between clear objectives and degree of freedom, the clear selection of topics and business ideas, the functioning of the exchange between the company and the digital branch, the use of methods, the scaling perspective of ideas as well as the network of external partners and customers.

When interviewing Max Gozal who's having an internships at Leo Pharma Innovation Lab, he point out one of the biggest mistakes according to his experience: *"Everybody can pitch ideas - but you can't choose which project you want to work on."* (Gozal, interview)

Furthermore Leo Innovation Lab has another challenge. Max Gozal claims: *"The board decides whether you have the abilities to work on your project."* (ibid.).

There are thousands of innovation labs around the world. Roughly, there are innovation labs for innovation labs. But as pointed out before, a lot of these facilities are planted by companies to gain

some Silicon Valley disruption. A lot of executives come to Silicon Valley to learn, even the danish Minister of Foreign Affairs, to acquire knowledge into new practices. But like anything else, for every successful story of an innovation lab, there's another innovation lab who didn't achieve the same thing.

A huge part of companies hire "digital natives", put them in hipster office spaces, and wait for the magic to happen. That aren't necessarily meant to be, like Zuckerberg and Facebook. Capital One which are a financial bank holding company in credit cards, are an example of how to succeed by having a appropriate personnel strategy. The company rotating staff through the lab in different directions, to learn new technologies and techniques. Furthermore a lab personnel move into mainstream IT roles, to transfer products or knowledge to a broader group of users (ibid.).

Thus, the personnel strategy, it's crucial to create a structured process for moving new projects into the rest of the organization. Innovation labs need to create new tools and processes that must be transferred, if the innovation lab want to maintain offerings (ibid.). An innovation lab must make this process successful by building a collaboration among participants, and address the need of both organizations (ibid.). Lastly, an innovation strategy is never done. Innovations labs must catalyze processes and disseminate them throughout the organization. If we look at Capital One again, they publicizes their lab innovations endlessly (ibid.).

Leaders and CEO's around the world have different views on innovation labs - you either hate or love them (ibid.). They can help companies to acknowledge new technologies and develop new changes for the greater good.

There are thousands Innovation Labs around the world, which are used across different kind of areas. Their aim goes from benefit and develop a more healthier life, a system of finance that can disrupt the way we use transactions or something completely different. A lack of vision and objectives, picking the wrong, failing to track the right KPI's and excluding the rest of the organisation, you will have a huge change of failing within your Innovation Lab.
It is not enough for an entrepreneur to pitch ideas, if you can't work on your own project. Innovation Labs are challenged to fulfill the potential of their entrepreneurs as long as they don't reflect on how their future is bound by their history, acknowledging the need to shred established corporate attitudes and policies that have served them well before, but can't take them into the future. An Innovation Lab is a collaboration between the core business and the resources that can be used and a semi-autonomous organization that engages diverse participants. When you want to succeed, you need to have a personnel strategy, where your Innovation Lab rotating staff through different directions, to gain knowledge and new techniques. Furthermore you need to build a collaboration among participants and address the need of both organisations, which lastly means that an innovation strategy is never done.

6.
Three horizons

What we have learned from the ambidextrous organization and innovation lab chapters, is that as a corporation you need to find a balance between exploration and exploitation, but how does this work in practice? We propose the three horizons framework as a perspective that can help structure discussion and investment in innovation and make the task of the Innovation Lab clearer.

The three horizon framework is valuable to build into your thinking about strategy and innovation. It places emphasis on where to tackle the different approaches to innovation (incremental, disruptive and radical) and place these within their different timing frames that are often need to manage these successfully across their development cycle.

The three horizon framework also allows for greater organizational participation on taking out 'future thinking' with different mindsets to visualize a variety of challenges in these various horizons and that has a huge value to work through and frame the activity and resources they will need over different time periods (Bagdai, M., Coley, S. & White, D.: 2000).

We need to clarify how to identify the existing prevailing or dominant system and the challenges to its sustainability into the future, i.e. the case for change (horizon 1). Innovation can lose the 'fit' aspects over time as the external environment changes.
We also need to think through the desirable future state, the ideal system you desire and the emerging options. Those that can displace what you already have. Often you can identify elements in the present that give you encouragement (horizon 3); keeping yourself open to all options that could lead to transformational change (ibid.).

Often the struggle is to draw out the nature of the tensions and dilemmas between vision and reality, and the distinction between innovations that serve to prolong the status quo and those that serve to bring the third horizon vision closer to reality (horizon 2); This is the space of transition, often unstable, called the intermediate space where views can collide and diverge.

The three horizons: brief introduction

Horizon 1: This is the existing business, the one you need to keep your real focus upon, it pays the bills, it gives you the possibilities for tomorrow. The emphasis here in this H1 is you invent, develop and deploy through a clear portfolio of products and services and (hopefully) a robust innovation process. Your aim is to keep extending and defending your core business and this is more though an incremental approach to improve on your existing business. This horizon is the one we are most familiar with (Bagdai, M., Coley, S. & White, D.: 2000).

Horizon 2: This horizon 2 'feeds' from horizon 1-much of the core is still wrapped up in this but this is where you often face that 'point of disruption, that famous innovators dilemma described by Clayton Christensen. It is a view of the things that are beginning to change, to threaten what you have as a core, it is the place where you begin to see change. It is the place were those disruptions can offer emerging new business, others will see, if you don't.
You certainly need to view this horizon with different metrics of its value and investment as it is often still 'emerging' and you need to figure this out and what this means as an impact on your existing

core business. The emphasis here in this H2 you need to research, demonstrate and disrupt. (iBid) To do this you need to certainly 'ring fence' this emerging horizon to ensure you are actively working on it in different ways (piloting, prototyping, new business models) and can be ready with possible answers if it comes towards you faster than you initially expected.

Horizon 3: There are pockets of the future in the present; often these are what some people call 'weak signals'. These positions will likely change the nature of your industry, they are potentially very radical. It is where there is real possibilities of completely new ways of doing things and this is where the mindset has to be more fluid and adaptable to seeing things in different ways.
There will be competing 'voices' on these, offering differing values, perspectives and advocacy. This becomes a challenging horizon to manage (ibid.).
The emphasis here in this H3 is you envision, explore and embody. Often there may be no right or wrong to these different views and often they simply cannot be grounded in 'hard' evidence but clear scenarios that embrace these different perspectives needs broad discussion and eventually emerging consensus of where to explore and not.

The alchemy of growth: laying the foundation

How do you create shareholder value? You will basically get the same answer from most people, when asking the question: Make an environment for profitable growth. The problem is, that some companies are simply not ready for a growth-oriented culture (because of their mindset-fit). For some companies, growth must take a back seat to build a solid foundation of operational excellence, competitive strength, and sustainable cash flow (Baghai et. al, 2000: 35).

A company must achieve superior operating performance to earn the right to grow or/and sell any distracting or underperforming businesses, and create a investment community (Baghai et. al, 2000: 36). A lot of companies are fantastic operators, where market-share leadership and low-cost producer status. But that is not the problem. They recognize that the issue is not growth or operational excellence, but a combination of both (ibid.). Portfolio management: 70 % i horizon 1, 20 % i horizon 2, og 10 % i horizon 3.

How many projects in each horizon? No hard rules.
Google aims for 70/20/10

"We spend 70 percent of our time on core search and ads. We spend 20 percent on adjacent businesses, ones related to the core businesses in some interesting way. Examples of that would be Google News, Google Earth, and Google Local. And then 10 percent of our time should be on things that are truly new...

How do you enforce that 70/20/10 rule? For a while we put the projects in different rooms. That way, if we were in one room too long, we knew we were not spending our time correctly. It was sort of a stupid device, but it worked quite well. Now we have people who actually manage this, so I know how I spend my time, and I do spend it 70/20/10".

Eric Schmidt, then Google CEO, speaking to Business 2.0 magazine, December 1st 2005

As we can point out in this example, the knowledge of the market grows and the emerging understanding of technology, the company have different horizons to invest in, to allocate the company's funds and resources. Firstly those that continue to build on the existing market that is currently known and served, known as Horizon 1. Then those that exist but you have not yet fully understood or entered but seem to be potential places where disruption might happen, is called Horizon 2. Then you need to be represented (H2) and finally, then those new markets, that become new categories, even radical that might change the market dynamics where you must have some 'readiness and awareness of', are known as Horizon 3. Perhaps you could invest your resources on this 70:20:10 basis as an example.

How do you maintain sustained growth over a long period of time? You have to keep a pipeline full of business building initiatives, where new growth engines are ready to take over, when your existing ones begin to lose steam. The dilemma for most managers is that they have to focus on keeping their current core businesses alive, while also paying attention to where they are heading in the future. In "Alchemy of Growth" Baghai, Coley & White (2000) they was introduced a shared language and framework for thinking about these activities. Businesses mature and then decline, they are born, grow and then die. Companies that want to remain successful, must therefore outlive the decline of their individual businesses.

7.
Culture

The importance of a culture - everyone has it. There are a huge difference between what you say and what you do. Strong messages through slogans and posters are not enough, if it isn't an integral part of the organisation beyond the explicit. In this chapter we want to get an understanding between the differences in a corporate and innovational culture and what it requires. Furthermore we use this chapter to address the tensions and mistakes a wrong culture can cause.

When you as a company wants to create innovation, you need a culture that matches and supports it (steveblank.com: 2017). The entrepreneurial mindset can help everyone from bureaucrats to babysitters, but an organisation does need the right culture to perform. Corporate innovation requires an innovation culture (ibid.).

Corporate innovation requires an innovation culture

When a company have an innovation lab, innovation hub, R&D department or something fancy related to innovation, you need to have a different culture than the original corporate culture. A company will face challenges by persuading employees to let go of old values and beliefs. According to Steve Blank who is a Silicon Valley serial-entrepreneur and launched the Lean Startup movement, point out that corporate innovation initiative starts and ends with a board meeting mandate to the CEO with a serie of memos to the employees, with posters, and workshops. A fenomen he calls 'innovation theater', which have a very little innovation. (steveblank.com: 2017)

Corporate Cultures, is a book written by Terry Deal and Arthur Kennedy from McKinsey, which indicates that every company has a culture, that has four essential ingredients: (iBid)
- **Values/beliefs:** set the philosophy for everything a company does, essentially what it stands for.
- **Stories/myths:** stories are about how founders/employees get over obstacles, win new orders.
- **Heroes:** what gets rewarded and celebrated, how do you become a hero in the organization.
- **Rituals:** what and how does a company celebrate?

Corporate Culture Diagnostic

It is not enough when a company slogan are "We value all of our employees", but have private cafeterias, reserved parking spots, and exclusive office for executives. Companies that execute or extend current business models (Horizon 1 & Horizon 2), stories revolve around heroes and rebels, which manage to do something different and new in spite of the existing way and processes (iBid).

The important values a company need to attend, is that stories, heroes and rituals define the importance in the organisation, and who the company want to attract and retain (iBid).

Companies need to re-think their corporate culture, if they want innovation to happen by design and not by exception (iBid). According to Steve Blank you need as a company to have a waging psychological warfare, which can be illustrated by four statements: (iBid)

Assess your company's current values and beliefs as understood by the employees
Communicate the need for new values and moving employees to a new way of thinking, is hard. It starts with thinking through the new values and beliefs the company wants to live by
Plan a concerted effort to create a new set of stories, heroes and rituals around those values

Simultaneously with the creation of new culture, align the company's incentive programs (compensation plans, bonuses, promotions, etc.) to the new values. Failure to realign incentives doom any new culture change.

To create an innovation culture a company needs heroes and stories about employees who created new business models, new products and new customers. When new products, methods or something else are created out of a random idea, that is stories who create an innovative culture (iBid).

When asking David Sandberg the question about the biggest weaknesses within big collaborations like Google, he responded: "There are 65000 in Google, and it destroys the innovative spirit. Furthermore, bad stories from former employees damage the culture. They struggle to be agile because of their size worldwide. A negative experience, requires 7 good, in order to make up the difference." (Sandberg, interview)
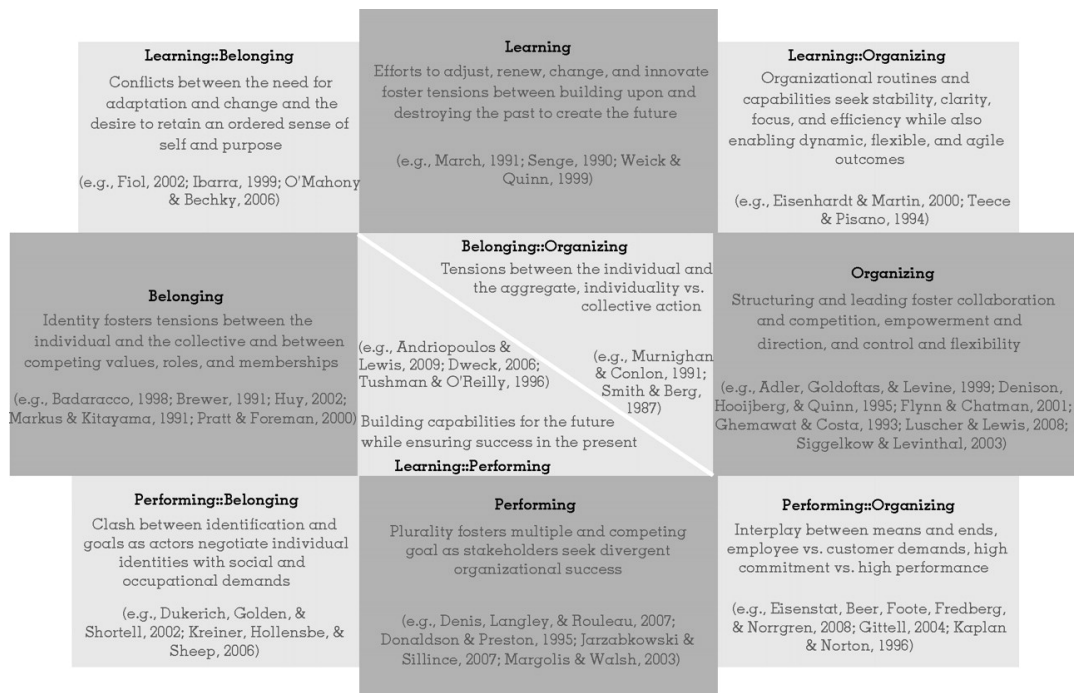

Learning::Belonging
Conflicts between the need for adaptation and change and the desire to retain an ordered sense of self and purpose
(e.g., Fiol, 2002; Ibarra, 1999; O'Mahony & Bechky, 2006)

Learning
Efforts to adjust, renew, change, and innovate foster tensions between building upon and destroying the past to create the future
(e.g., March, 1991; Senge, 1990; Weick & Quinn, 1999)

Learning::Organizing
Organizational routines and capabilities seek stability, clarity, focus, and efficiency while also enabling dynamic, flexible, and agile outcomes
(e.g., Eisenhardt & Martin, 2000; Teece & Pisano, 1994)

Belonging
Identity fosters tensions between the individual and the collective and between competing values, roles, and memberships
(e.g., Badaracco, 1998; Brewer, 1991; Huy, 2002; Markus & Kitayama, 1991; Pratt & Foreman, 2000)

Belonging::Organizing
Tensions between the individual and the aggregate, individuality vs. collective action
(e.g., Andriopoulos & Lewis, 2009; Dweck, 2006; Tushman & O'Reilly, 1996)
(e.g., Murnighan & Conlon, 1991; Smith & Berg, 1987)
Building capabilities for the future while ensuring success in the present
Learning::Performing

Organizing
Structuring and leading foster collaboration and competition, empowerment and direction, and control and flexibility
(e.g., Adler, Goldoftas, & Levine, 1999; Denison, Hooijberg, & Quinn, 1995; Flynn & Chatman, 2001; Ghemawat & Costa, 1993; Luscher & Lewis, 2008; Siggelkow & Levinthal, 2003)

Performing::Belonging
Clash between identification and goals as actors negotiate individual identities with social and occupational demands
(e.g., Dukerich, Golden, & Shortell, 2002; Kreiner, Hollensbe, & Sheep, 2006)

Performing
Plurality fosters multiple and competing goal as stakeholders seek divergent organizational success
(e.g., Denis, Langley, & Rouleau, 2007; Donaldson & Preston, 1995; Jarzabkowski & Sillince, 2007; Margolis & Walsh, 2003)

Performing::Organizing
Interplay between means and ends, employee vs. customer demands, high commitment vs. high performance
(e.g., Eisenstat, Beer, Foote, Fredberg, & Norrgren, 2008; Gittell, 2004; Kaplan & Norton, 1996)

Figure 1

We catalog paradoxes of belonging, learning, organizing, and performing. This framework builds from previous work—namely, Lewis's (Luscher & Lewis's: 2011) which applied the first three categories, and inductive action research, which identified the latter three. Further, these categories mirror

those identified in the early paradox research, reflecting competing values (learning- adhocracy, be-longing-clan, organizing hierarchy, performance-market). We identify exemplars that illustrate each category, as well as tensions at their intersections (see Figure 1).

The four categories of paradox represent core activities and elements of different organizations: learning (knowledge), belonging (identity/interpersonal relationships), organizing (processes), and performing (goals). Learning paradoxes surface as dynamic systems change, renew, and innovate. These efforts involve building upon, as well as destroying, the past to create the future.

Such tensions reflect the nature and pace of engaging new ideas, including tensions between radical and incremental innovation or episodic and continuous change (iBid).

At the firm level, opposing yet coexisting roles, memberships, and values highlight tensions of be-longing, for instance, found that competing identities emerge among not-for-profit board members, creating conflict and ambiguity regarding strategic action. Organizing paradoxes surface as complex systems create competing designs and processes to achieve a desired outcome. These include ten-sions between collaboration and competition , empowerment and direction, or routine and change. For example, manufacturing depends on systems that can enable control and flexibility (iBid).

According to Jacob Theilgaard you often experience tensions in closed hieratic organisations, thus it creates a negative environment. Furthermore an organisation won't have the same empowerment from the employees, which would lead to a wrong direction because of the missing innovative direc-tion. As Jacob Theilgaard point out: *"It is through dialogues ideas happens, and I can't be forced hieratic"* (Theilgaard, interview).

Performing paradoxes stem from the plurality of stakeholders and result in competing strategies and goals. Tensions surface between the differing, and often conflicting, demands of varied internal and external stakeholders . As an illustration, corporate social responsibility highlights a double bottom line, in which performance depends on financial and social goals.

Tensions operate between as well as within these categories. Learning and performing spur tensions between building capabilities for the future while ensuring success in the present. Related studies examine the inconsistent mindsets and norms that support these contradictory efforts. Tensions between learning and belonging reflect conflicts between the need for change and the desire to retain a developed sense of self and purpose (iBid).

Organizing involves collective action and the subjugation of the individual for the benefit of the whole. Yet organizing is most successful when individuals identify with the whole and contribute their

most distinctive personal strengths (iBid).

Jacob Theilgaard, senior consultant at one of the biggest consultancies in Denmark, Implement, point out that today's organisations are build to produce widgets and not new thinking. As he quoted: *"Special conditions and bureaucratic processes reduce the power of innovation"* (Jacob Theilgaard, interview).

Furthermore Theilgaard noted that diversity is the source of performance in every organisation, but that it is a tough balance. If you have a huge diversity within your organisation, it would create discordance (iBid). If I like boys and you like girls, we would never gonna fit and fulfill our capabilities. It is about diversity of thought and perspective - but aligning towards a shared goal.

According to Theilgaard you need to stop rigid rules and processes. Organisations are set to streamline processes, and is very conservative. Leaders emerge as an independent entity in the organization that creates the life of hierarchy's. Flat open organizations, which manages to be a part of a civilization are essential to avoid tensions and create a culture of innovative approaches. As Theilgaard points out related to his work for senior managers over the last decades:

"There must be a momentum: an idea and a person is not enough. There must be some help to challenge, drive and make sure the idea will be unique. Different skill profiles and diversity must be present. Ideas arise in systems and people among each other - everyone's ideas are a combination of others ideas." (Jacob Theilgaard, interview).

When speaking to David Sandberg Larsen, former HR-manager at Google's European Headquarter in Dublin, he point out the importance of finding the right team: *"The team is alpha omega. The product must also be involved, but the team are essential. There must be a strategic fit."* (Sandberg, interview).

A wrong culture can have dramatic outcomes, and waste potential. The entrepreneurial mindset need an innovative culture rather than the original corporate culture. Every culture has values that they stand for, stories about how they solve obstacles and challenges, the heroes who have done something extraordinary, and the rituals of what and how the company celebrates and rewards. A strong culture need heroes and stories that can guide people in new directions - acknowledge the person that created a new business model, saw a business in another segment or something completely different. Then you will experience an innovative culture. Tensions between individuals, performance, organizing and learning can easily be identified in closed hieratic organisations, which create a lack of empowerment. Furthermore bureaucratic processes reduce the power of innovation.

The dilemma of excellent execution: why only doing what you are good at will kill you eventually

If, as ambidexterity suggests, that structures have to evolve with changing business models or different market conditions, and managing two simultaneously in fast moving environments, requires two separate structures, we need to look at the implications of this for innovation, including processes, culture, resource allocation, decision making, incentives, certainty and uncertainty, exploit vs explore vs execution vs search. How do these different cultural practices show themselves in processes and decision making?

Innovation in horizon 1 extends the current business model, innovation here is somewhat predictable. Innovations in horizon 2 & 3, because they are focused on building something new, can't predict future cash flows or ROI, they require a different budgeting process, we will in this chapter show why this is the case.

First an important lesson on the difference between startups and corporations, from Steve Blank and Henry Chesbrough.

"A startup is a temporary organization in search of a repeatable, scalable business model. A corporation, by contrast, is a permanent organization designed to execute a repeatable, scalable business model. When companies want to innovate a new business model (vs. innovating new products and services within an already scaled business model), the processes that companies have optimized for execution inevitably interfere with the search processes needed to discover a new business model." (Henry Chesbrough & Steve Blank, 2014).

This insight has wide reaching implications for innovating new businesses, and new business models, inside an existing corporation. For the entrepreneur, there are dramatic differences in the context inside and the context that confronts him with a startup externally. Corporations do have resources and capabilities that startup founders can only dream of, but the bad news for the entrepreneur is, that that these are all tailored towards exploitation, not exploration. What seems like an an unfair advantage from the outside, is often what allows new entrants to succeed and incumbents to wither. The problem with assets

"Whenever a portfolio investment decision in a corporation is taken, the option offering leveraging existing assets will win over the one, which requires an entirely new full investment—because the first one incurs just the marginal cost." (Toma, 2016).

In the much smaller startup organizations, marginal cost theory doesn't apply, since for these organizations, the marginal cost is no different than the full cost associated with building the new business,

they are not bogged down by path dependency, so for this reason a disruptive path becomes an easier route to imagine. Another reason established companies prefer leveraging existing assets, is the pursuit of synergies between the two businesses, even before these horizon 3 experiments have a chance to be fully realized and the new business develops assets and capabilities that can be leveraged and integrated back into the horizon 1 business.

Executives will have to acknowledge the decision making biases connected with owning established assets. Many of the recommended strategies, such as cannibalizing profitable product lines, requires the company to divest from established capabilities, assets, processes, and so on, to circumvent or at least reduce power of this decision making bias.

"In abandoning dead or dying assets, the enterprise frees itself of certain routines, constraints, and opportunities for undesirable protective action inside the enterprise." (Teece, 2009).

Unshackling the company from a dying asset base, that all too often provides a false sense of security that certain groups within the organization benefit from. Feeling their place threatened, they try to kill any new initiatives them deem harmful to themselves.

As such, growth innovations, new scalable sustainable business models, inside companies, have to wage a two front war. A startup in the external market works non stop, iterating, pivoting, validating and trying to find product/market fit and fit it into a winning business model.
An internal startup has to do all that, but also much more. *"The internal venture must fight on a second front at the same time within the corporation. That second fight must obtain the permissions, protection, resources, etc. needed to launch the venture initiative, and then must work to retain that support over time as conflicts arise (which they will)."* (Henry Chesbrough & Steve Blank, 2014).

They don't just have to pivot to obtain customers, they also have to pivot to obtain and retain internal support for the innovation initiative if they want to succeed. This notion is probably shocking to entrepreneurs and controversial for supporters of the lean startup movement, as they tend to think of pivoting only to improve their product/market fit externally. *"The new venture might pivot away from current customers of the corporation in the early days of the venture, in order to reduce friction with the established sales force (who want to sell large quantities of the current product, not test minute quantities of some future product that may or may not ever be built in volume. Worse, the potential new product might give customers a reason to delay the purchase of today's products)."* (ibid.).

This seems to suggest, that the organization has to be designed such that it can keep providing support for these kinds of innovations over their lifetime. Entrepreneurs trying to make innovation happen in organizations that are not setup to nurture them, will be at great risk of losing funding, as

soon as the initial enthusiasm around the innovation wears off. A bad quarter financially, the hiring of a new CEO looking to cut spending or any number of other unforeseen changes, are often the death of these kinds of projects and subsequently the entrepreneurs who championed it. Henry Chesbrough therefore suggests an addition to Steve Blank's "get out of the building" for the corporate entrepreneur, "get upstairs in the building". You will need to be able to convince your bosses that risks are okay, that structures, processes and cultures that insulate and protect innovation from the everyday exploitation/execution that damages exploration activities in companies. *"Think of it as internal political product-market fit, and prepare to pivot in order to increase that fit (and your support)"* (Henry Chesbrough & Steve Blank, 2014).

"As companies grow larger and management falls prey to the fallacy that it only exists to maximize shareholder short-term return on investment, companies become risk averse. Large companies and their boards live in fear of losing what they spent years gaining (customers, market share, revenue, profits.)" (Steve Blank, 2016:1).

This works fine in stable environments where not much changes, but today there are very few of those left. In dynamic environments, this is akin to death by a thousand cuts.
The board of a startup on the other hand, realizes from day one, that risk and uncertainty are part and parcel of innovation and the reason they exist. There are no customers you can lose, no revenues or profits to protect. No established assets or path dependencies that limit decision making. They realize that there is little to lose, and everything to gain. *"Large companies are often risk-averse engines – they are executing a repeatable and scalable business model that spins out the short-term dividends, revenue and profits that the stock market rewards. And an increasing share price becomes the sole reason for existing."* (iBid)

Somewhere in the dim past of the company, it too was a startup searching(exploration) for a business model. But now, as the business model is repeatable and scalable, most employees take the business model as a given, and instead focus on the execution(exploitation) of the model - what is it they are supposed to do every day when they come to work. They measure their success on metrics that reflect success in execution, and they reward execution (iBid).

It's worth looking at the tools companies have to support successful execution and explain why these same execution policies and processes have become impediments and are antithetical to continuous innovation. In the 20th century business schools and consulting firms developed an amazing management stack to assist companies to execute. These tools brought clarity to corporate strategy and made product management a repeatable process. The product management process assumes that product/market fit is known, and the products can get spec'd and then implemented in a linear fashion (Ibid).

"All these tools have an underlying assumption - that the business model - which features customers want, who the customer is, what channel sells/delivers the product or service, how demand is created, how does the company make money, etc – is known, and that all the company needed is a systematic process for execution." (Ibid).

Once the business model is known, the company organizes around that goal and measures efforts to reach the goal, and seeks the most efficient ways to reach the goal. This systematic process of execution needs to be repeatable and scalable throughout a large organization by employees with a range of skills. Staff functions in finance, human resources, legal departments and business units developed KPIs, processes, procedures and goals to measure, control and execute. Paradoxically, these very KPIs and processes, which make companies efficient, are the root cause of corporations' inability to be agile, responsive innovators (IBid). This lead us to our next section.

Innovation KPIs & Execution KPIs

In order to become successful a corporation need to find a way to measure their track record under a different model. In this chapter we want to explain why an organisation must identify the right Key Performance Indicators (known as KPIs), which we call innovation-KPIs.
Furthermore we want to distinguish them from traditional execution-KPIs, and then explain how you can measure performance more appropriately in the third horizon.
Silicon Valley's ecosystem, particularly VCs, can play a key role in the innovation model's re-invention and offer best practices for relevant innovation-KPIs (Accenture, 2017).

Large corporations need to address two conflicting sets of goals. They need to continue to execute on their existing business model, and at the same time realize that they would not be able to achieve big gains by just tackling efficiencies and productivity improvements. To achieve such gains they need to improve their ability to disrupt. Corporations must establish two distinct types of KPIs in order to track their performance: execution-KPIs, which we associate with the performance of existing business models, and innovation-KPIs, which we associate with the achievement of disruptive innovation-related goals (Synapse, 2014).

Execution-KPI

Execution-KPIs are precise, with well-understood roles and responsibilities for the organizations being measured, easier to define, and have been studied extensively.

The goals of public companies are primarily articulated in and driven by financial KPIs. They include: return on net assets (RONA), return on capital deployed, internal rate of return (IRR), net/gross margins, earnings per share (EPS), marginal cost/revenue, debt/equity, EBIDA, price earning ratio,

operating income, net revenue per employee, working capital, debt to equity ratio, accounts receivable/payable turnover, asset utilization, loan loss reserves, minimum acceptable rate of return, etc. These financial metrics then drive the operating functions (sales, manufacturing, etc) or business units that have their own execution KPI's (market share, quote to close ratio, sales per rep, customer acquisition/activation costs, average selling price, committed monthly recurring revenue, customer lifetime value, churn/retention, sales per square foot, inventory turns, etc.).

HR is then responsible for recruiting, retaining and removing employees that execute known functions with known job specifications. One of the least obvious, but ultimately most important HR process, and ultimately the most contentious, issue in corporate innovation is the difference in incentives. The incentive system for a company focused on execution is driven by the goal of meeting and exceeding the quarterly or yearly plan. Sales teams are commission-based, executive compensation is based on EPS, revenue and margin - business units on revenue and margin contribution.(Steve Blank, 2016:1) This obviously doesn't work for innovation, which we will propose a possible solution to later.

Most corporations that attempt to measure the ROI of their innovation efforts tend to only track the performance of their R&D organizations with KPIs such as "number of patents issued per year," or "annual revenue generated through the licensing of IP" or "number of ideas brought forward by employees." They do so because they can easily measure the achievement of short-term, concrete goals such as those associated with the issuance of filed patent applications or the revenue generated from the licensing of patents (Synapse, 2014).

To better assess the performance of their disruptive innovation efforts, companies will need innovation-KPIs that measure the ROI generated from the integrated and collaborative efforts (ibid.):
• Percent of non R&D employees submitting project incubation ideas, or hackathon ideas, and percent of these ideas that are actually pursued through a corporate incubation process. This is relevant particularly now that many companies are establishing incubators and accelerator
• Monetary value of the portfolios created after the incubation process, i.e., the value of the portfolio of projects that will be pursued beyond the initial incubation phase. Such value, for example, can be established like VCs do it.

Innovation-KPI
Innovation-KPIs, are those who particularly are associated with growth innovations or disruptive innovation, measure long-term, less precise and therefore more conceptual goals, with less-understood organizational roles and responsibilities for achieving them. They measure the performance of businesses, or projects, with unknown paths to success (in fact as any VC who invests in early stage companies will attest, most of such efforts fail), undefined or poorly understood technologies,

unspecified business models, underdeveloped markets, and oftentimes at this stage all of the above. As a result, corporations have a hard time defining innovation-KPIs or even establishing a culture of measuring the impact of their disruptive innovation efforts. For example, IBM's CEO recently stated her hope that by 2018 the Watson business will be producing $1B in annual revenue and $10B by 2024. Creating a new business that can grow from $0 to at least $1B annually is the most frequently stated innovation-KPI and has all the characteristics mentioned above. Google's, Amazon's and Apple's CEOs have also used this innovation-KPI around their YouTube, Kindle, and iPhone efforts respectively (iBid).

Every time another execution process is added, corporate innovation dies a little more. Innovation is chaotic, messy and uncertain. It needs radically different tools for measurement and control. It needs the tools and processes pioneered in lean startups and adopted by entrepreneurs working in the external capital market (Blank, 2014).

Therefore, to operate in horizon 3, new systems and processes for dealing with this uncertainty have to be adopted. We will discuss in a later chapter, uncertainty and how it relates to entrepreneurial judgement, as well as how this judgement might be better facilitated in a different type of organisation than one that deals with known quantities and is ordered around financial measures and other execution focused KPIs.

Business plans don't tell the future

To get funding for innovation or indeed any new idea inside a large corporation, the usual requirement is that you complete a business plan with projections for what will happen over the next 3-5 years. The management team deciding whether to invest, wants to know right away if its a worthwhile investment in terms of ROI, IRR and so on. They want to know, on day one, whether this investment will make them a lot of money or look stupid. The problem is that unless they can literally predict the future, there is no way of knowing on day one how a truly new business model idea will do in the market. This may be possible for an established product line where historical data exists, but is not really possible for new growth innovations.

"Suffice to say that business plans are based on the false assumption that innovation can be planned like a linear project management process. The thinking is that a good plan makes it all better and the ultimate hope is that if we follow the plan and build our products the customers will come. This is of-course not true. As Eric Ries says: *"If we are building something nobody wants it does not matter if we are on time or on budget"*. (Viki, 2016:1)

The company will have to change its instincts from, no business plan no funding to no validated business model no further investments. *"Until these instincts change, large companies will continue to struggle with innovation. What companies need are organizational capabilities that instinctively panic about*

investing in ideas that have not yet been fully tested in the market. This would in turn result in the company instituting a culture that invests in experiments, minimum viable products and iterations." (Viki, 2016:2).

Success breeds some level of complacency and establishes routines and processes that are necessary for good execution/exploitation. Changing these routines can be costly, so unless the need is real, it will happen slowly, if at all. Unless the culture is geared for it, these changes can be very difficult to implement successfully. When innovation is incremental, routines and structures can be adapted gradually or sequentially. When innovations are more radical in their nature, there is a need to create an entirely new structure within which an entirely different set of values and procedures is established.
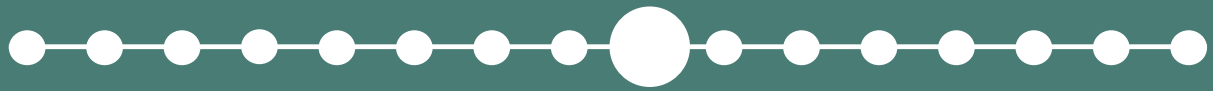
8.

Internal capital market

The central idea of the three horizons model, that profits from one business unit is used to fund the development of the next opportunity, relies on an internal capital market to determine resource allocation over the three horizons and decide the allocation of funds to specific projects. This should allow diversified corporations to engage in more R&D activities because their operating units have access to capital through the internal market. However, problems arise when trying to make use of a internal capital market to fund growth opportunities that have an uncertain mid or long-term payoff, as opposed to a predictable short term return. Arguments for why this tends to happen focus on the hypothesis that managerial myopia is to blame through the use of financial controls, using ratios like internal rate of return (IRR), net present value (NPV) or return on net assets (RONA), that promote getting assets of the balance sheet, outsourcing, and investing in innovations that increase the efficiency with which you deliver your current products or services. Innovations that enable you to better exploit your current activities, rather than developing the opportunities that will generate future profits. We explored some of the consequences of this in the previous chapter on search vs execution.

The question is; is the internal capital market really more efficient than the external? Peter Klein explores the evidence for this and asks the question: *"which type of firm is more innovative: the de-centralized, diversified corporation or the smaller, more narrowly focused "entrepreneurial" firm?"* (Klein, 2007)

Klein finds there is a "a robust negative correlation between diversification and R&D intensity, even when controlling for firm scale, cash flow, and investment opportunities." (ibid.)

This appears to be consistent with the hypothesis that diversification discourages investments in R&D and thereby reduces innovation. There is however also evidence that the cause is inefficiencies in the internal capital market, rather than managerial myopia.

The internal capital market is supposed to have advantages compared to the external, in those areas where access to external funding is limited. These advantages are in terms of residual control rights, being able to intervene and select allocation of resources within the firm at any time, using informational advantages to do so more efficiently than the external capital market would be able to, if the divisions were standalone firms. *"These advantages could be particularly important for investments in R&D, where the information asymmetry between the firm and outside investors is likely to be greatest"* (ibid.).

His findings appear more consistent with the view that the internal capital market itself fails to provide adequate resources for the divisional managers to pursue a strategy of investing in innovation. This might be due to internal information asymmetry, compared to the asymmetry in information between the ICM and the ECM. "Information is exchanged between divisional and senior managers through both formal and informal interaction, and senior managers need substantial information about divisional activities and profit opportunities (ibid.).

There are differences in these information sets and motives however, that stem from private information about divisional investment opportunities and agency conflicts due to private interests, such as career concerns. This internal information asymmetry may result in suboptimal allocation of internal capital and value destruction. *"..multi-segment firms tend to allocate more capital to those divisions with low growth than to those with high growth. In other words, the internal capital allocation is often inefficient within conglomerates."* (Billett et al.).

A specific division of a diversified corporation may be underinvesting in R&D, not because divisional managers are reluctant to pursue long-term projects, but because *"the division is unable to obtain the necessary funding from corporate headquarters, because the internal capital market performs poorly relative to external capital markets."* (Klein, 2007).

"This strand of research suggests an alternate explanation for R&D underinvestment at diver-

sified firms. Even if divisional managers are not myopic, they may be unable to engage in R&D because the internal capital market does not make sufficient funds available. If the internal capital market is highly inefficient, financing R&D with funds generated from other divisions could be even more difficult than financing R&D with external finance." (ibid.).

Managers of established product lines can have sufficient decision-making authority to starve the new business of financial capital. *"In short, the new can lose out to the established unless management is sensitive to the presence of certain biases in accepted investment decision processes."* (Teece, 2009).

Now this is relevant for all firms pursuing growth outside their core business, as this might decrease market cap. Shareholders and the stock market, fickle in their nature as they are, runs at the first sign of trouble. This of course makes it that much less likely for the CEO and board of directors to pursue those growth opportunities which the market might punish them for trying.

Inefficiency arises not from underinvestment in opportunity and R&D, but from treating divisions the same. The three horizons model and the ambi org teaches us, that there is a fundamental difference between those divisions that generate positive cash flow and those divisions with growth opportunities.

This relationship between internal information asymmetry and internal capital market efficiency, helps explain why financial metrics are favoured over more strategic measures or qualitative and tacit insights. The question however should not be how division managers can help executives stay better informed about their investment opportunities, but rather - why are the division managers, the people closest to the action, focused on and presumably in possession of an information advantage, not the ones making decisions on what innovation related activities the company should invest in?

This information asymmetry between the ICM and ECM is likely to be greatest in those areas where the corporation is currently doing business and where they have developed strategic resources (path dependency, exploitation of current markets and customers) and tailored their assets towards execution of their business model. Where this information asymmetry is likely much smaller is those opportunities that are just beginning to take shape and be developed, where the construction of a new business model around a technological breakthrough or the appropriation of a technology to new ends only exists in the minds of the people at the forefront of its development. That is to say, where information asymmetry provides the basis for certainty, internal market efficiency is great, but where there exists high uncertainty, the internal capital market is not setup to take advantage. But the question is then, how do you invest in innovations with uncertainty? What are the strategies used in the external capital market - how do VC's make investments?

There is not anything inherently wrong in relying on financial controls, but as with any tool, you have to know when and where to apply it. The use of accounting criteria for investment decisions works fine when certainty is high and outcomes predictable, when investing in horizon 1 activities where exploitation through incremental and efficiency innovations are necessary to give you the right to grow.

According to this the internal capital market is inefficient. Managers are setup to fail regarding long term investment. Decisions regarding short term incremental innovation and efficiency innovations and those decisions that pertain to more long term uncertain investments in innovation and new business models are fundamentally different in nature and require processes and decision rights with regard to the allocation of resources that these project require. In essence, two separate investment strategies, designed and setup to handle different aspects of the three horizons might be called for. If the use of an internal capital market has failed most firms in regards to investing in future growth, perhaps looking to how the external capital market invests in innovation and startups could provide a valuable perspective. Instead of an internal capital market, perhaps a portfolio strategy is preferable. Is it instead possible to design an organisation that has the best of both worlds? An organisation that makes decisions on incremental innovations in their core business based on financial metrics and uses more venture capital inspired metrics in regards to their horizon 3 activities.

9.

External Capital Market and the VC approach: optionality and the convex nature of returns

If the internal capital market is not delivering on investments in innovation with uncertain outcomes, another strategy like a portfolio model might be preferable for these horizon 3 investments. Looking to the VC approach might be beneficial. As the external capital market has become more efficient, with increasing competition between the top VC firms for access to the hottest startups, this chapter addresses the evolution of the external market and the way VC firms think about investing in innovation and the implications this has for the entrepreneur.

Naval Ravikant, the founder of Angellist, says that the costs of running startup experiments have dropped dramatically, today companies can often develop a prototype, launch and start to get traction, before they even look for angel or VC investments. Previously validating if there's a market, cost around 10 million dollars, today it can be done for 1-2 million (Griffin: 1).

The funding environment has changed significantly over the past 20-30 years, and there is now both lots of seed, angel and VC money in the system. More angel investments, means there's a lot more startup experiments being run. And Increased competition for the top startups, creating a bifurcated market.

In this same vein, the size of funding rounds and valuations have risen dramatically. Where before, you would have to show good metrics, nice revenue, growth etc, it's now possible to raise 200 million dollars without much of what is traditionally considered the value of a company, to actually take on an industry and its incumbents, right out the gate. Big companies are no longer the only ones with lots of capital and options. Startups focusing on one innovation space are often putting more money on the problem than large companies are.

What can companies learn from VCs about how they invest in innovation and uncertainty about the future? Warren Buffett describes the VC approach like this: if there exists significant risk in a single transaction, the overall risk can be reduced by making many mutually-independent investments. "Thus, you may consciously purchase a risky investment – one that indeed has a significant possibility of causing loss or injury – if you believe that your gain, weighted for probabilities, considerably exceeds your loss, comparably weighted, and if you can commit to a number of similar, but unrelated opportunities (Buffett, 1993).

To make this work, you want to do lots of small investments, but never a single huge bet. This is essential to the VC approach, given the nature of convex bets.
Because the value that is uncovered by VC is created through a trial and error process by entrepreneurs, there can be no certainty in investing in it. There is no future out there, no there there yet. What exists are probability distributions. This means you can be wrong, even though given the probabilities you made the right decision. Where venture capital stands out, is in the convexity of returns. Financial success for a venture fund, comes down to a few winners (Griffin: 2).

Jeff Bezos describes it like this: *"outsized returns often come from betting against conventional wisdom, and conventional wisdom is usually right. Given a 10% chance of a 100 times payoff, you should take that bet every time. But you're still going to be wrong nine times out of ten. We all know that if you swing for the fences, you're going to strike out a lot, but you're also going to hit some home runs."*
The bets that win big, pay for all the failed experiments. The convexity and long-tailed distribution

of returns, makes it imperative to be bold in investments. In other words, it's not about how many successes you have, it's about how big they are. A founder or VC can lose 100% of their investment, but if the downside (amount invested) is low and the upside is high, the potential multiple of that investment makes up for all other losses in the portfolio. (Griffin, 3)

"Why is experimentation so important in an economy? The answer is that experimentation is the best way to deal with one of nature's solutions to dealing with risk, uncertainty and ignorance: a complex adaptive system." (iBid)

In a complex adaptive system like the economy or a business, the approach should be to try to discover solutions through trial and error, rather than prediction. Nassim Taleb describes the phenomenon thusly: *"It is in complex systems, ones in which we have little visibility of the chains of cause-consequences, that tinkering, bricolage, or similar variations of trial and error have been shown to vastly outperform the teleological - it is nature's modus operandi. But tinkering needs to be convex; it is imperative…. Critically what is desired is to have the option, not the obligation to keep the result, which allows us to retain the upper bound and be unaffected by adverse outcomes."*

This concept of optionality, as we described before, is how venture capital work. Optionality is simply asymmetric upside with correspondingly limited downside. When the potential upside is 1000 times what you invested and the investment you made was relatively tiny (because startup experiments are becoming cheaper) this becomes a powerful perspective for dealing with uncertainty.

Having optionality means that you don't have to be right that often, to still generate a nice return. Because your decision making no longer relies on correctly forecasting the future, there is now room for the entrepreneur to think more deeply about how to achieve his goals. You just need the wisdom to not engage in activities that hurt yourself and being able to recognize a favourable outcome when it occurs. The important point of optionality being, that you don't need to predict this outcome, but can invest more after it has occurred.

An example of this, is the VC who invests in a team that is strong technically, possess good judgement and that addresses an opportunity with a huge market. The VC has acquired optionality because of what is called pivoting in the lean startup. The startup can find success with something the founders couldn't conceive of when they started out, but something they found along the way. On the other hand, you should avoid companies with negative optionality. This means companies operating in niche markets, with limited technical skills, that have an inflated early valuation from raising too much money at (more on this later) or are highly leveraged. The reason we want a huge addressable market, is because it affords room for mistakes. As you never quite get it right the first time, the size of the market allows you to pivot and still have a customer base. This both increases optionality and the

convexity of the potential outcome. This also ties into why business plans don't work for innovation. Because it is treated as a rigid execution document, you limit your optionality. Working with iterative hypothesis validation of a business model however, allows for pivots and therefore more optionality.

If we look at investing in innovation as a process of search and discovery of strategic options, we can shift the mindset of the organization. As we have argued before, the financial tools and metrics being used by companies today, are not equipped to deal with uncertainty. They assume a predetermined plan will be followed and projections met. There is another approach however, that incorporates both uncertainty and the active decision making needed through the life of the project.

A business strategy expressed in financial terms, is more similar to a series of options, than static cash flows. Implementing and executing a strategy involves making a set of related decisions. Some decisions are handled immediately, while others are deliberately deferred, which allows the decision maker to change course and optimize as circumstances evolve. *"The strategy sets the framework within which future decisions will be made, but at the same time it leaves room for learning from ongoing developments and for discretion to act based on what is learned."*(Luehrman, 1998)

To help explain the concept of options, lets use a tomato garden as a metaphor, as this is a lot like managing a portfolio of strategic options.
Imagine walking into the garden on a day in August, you would find some of the tomatoes ripe and ready. You would know to pick those immediately. Some tomatoes might be rotten and not even worth picking. These are the most extreme cases, now or never, and pretty easy decisions for the gardener. It is those tomatoes in between, with varying prospects that are interesting. Some could probably be picked now, but would benefit from more ripening. The gardener only picks these now, if he knows pests or animals are likely to eat them. Other tomatoes are not ready yet and there's no real point in harvesting them now, even if the pests get to them. However there is enough time left in the season, and they are far enough along, that many of them will ripen unharmed and be picked eventually. Other though, look less promising and will probably not ripen before the season ends. These tomatoes are not lost however, with a bit of care, more sun, water, pruning or favourable environmental conditions, luck, they might make it.

"Finally, there are small green tomatoes and late blossoms that have little likelihood of growing and ripening before the season ends. There is no value in picking them, and they might just as well be left on the vine. Most experienced gardeners are able to classify the tomatoes in their gardens at any given time. Beyond that, however, good gardeners also understand how the garden changes over time. Early in the season, none of the fruit falls into the "now" or "never" categories. By the last day, all of it falls into one or the other because time has run out. The interesting question is, What can the gardener do during the season, while things are changing week to week?" (Luehrman, 1998)

A passive gardener will visit the garden once a season, on the last day and pick what is left. The hobby gardener might visit on the weekends and frequently picks what is ripe before they are left to rot. Active gardeners do a lot more than that, they constantly watch they garden and based on what they see, add water, fertilizer, prunes etc., to get those tomatoes that are still uncertain to ripen before the season ends. He can't control the weather, but he can influence the likelihood that they will ripen nonetheless. Not all tomatoes will make it, but the active gardener has a more bountiful harvest than the purely passive one. Active gardeners then, are not just making decisions about pick or don't pick, but are constantly monitoring the options and looking for how they can influence the underlying variables to improve the value of the options and ultimately the outcomes. (iBid)

Incremental investing

With incremental investing, companies can now make many small bets, rather than a few huge bets. This is transformational because the more bets a company makes, the more likely they are to find something that works. This approach provides a way to make appropriate levels of investment depending on the entrepreneurial team's innovation stage.

"First, we want to know if there is a real customer need; so we invest in finding that out. Then we want to know if the team can make a solution that meets those customer needs, so we invest in that. Ultimately we want to know whether the product has a viable business model, so we invest as much as we need to for the team to find product-market fit. If the team succeeds, then we double-down investment to scale the product. This is the principle of searching before we execute, applied to investment decision making." (Viki, 2017)

For a VC, the decision to invest in a startup is considered carefully and extensive due diligence carried out, but most day-to-day spending decisions are left to the startup's CEO. VC funding doesn't follow quarterly or annual budget cycles. When a startup resolves a key risk, it gets further investment. Identifying these milestones is very important for early stage startups and beneficial for a number of reasons. The first is that planning milestones allow you to drive focus on what you will be working on, secondly the process of identifying and planning them make you question when and in what order you and your team should try and validate or disprove the riskiest hypotheses of the business model, and lastly, from a fundraising perspective milestones are useful to tie together what you need to accomplish with how much money it will take to get there, so that you can fundraise accordingly. As we have explained, innovation is not a linear process, as such the growth of a startup more closely resembles a series of zig zags. Thinking about, planning and trying to forecast your milestones, so that you can understand your cash needs, is certainly useful, but following the principle of optionality and pivoting, you need to constantly be on the lookout for actions and opportunities that are more beneficial and attractive to the startup, than that ones originally envisaged in the milestone plan and

presented to investors. As we have already argued, if your investors hold you to the plan they bought into, for no other reason than promises must be kept, the company is probably gonna die a quick but nonetheless painful death. By keeping an eye out, staying agile and adapting the milestones as necessary, you increase your chances of survival. Naturally, this optionality comes at a cost, as your original plan will have changed and thus your cash burn will change and your goals (KPIs) will change as well and that's fine as long as you are aware how and why, hopefully having learned some along the way (Espinal, 2014).

The principle of optionality is our best bet for convincing executives that taking calculated risks, experimenting and cutting losses when necessary, is okay. If there is no courage to invest in generating a portfolio of options, there is certainly no chance of winning big. The principle of limiting the downside by constraining time and resources committed, by running lean and doing incremental investing, is a powerful tool.

"Organizational decision processes often display features that seem to defy basic principles of rationality and sometimes border on the bizarre. These errors can be especially damaging in fast-paced environments with path dependencies and network effects, as there is less opportunity to recover from mistakes. When investments are small and made frequently, there are many opportunities to learn from mistakes. Since large investments are usually occasional, major investment decisions are likely to be (potentially) more vulnerable to error." (Teece, 2009).

As optionality works by finding out what doesn't, we need to accept that we have to pay for these negative results, if we want to create a strategic innovation portfolio of options. To put this another way, it can be thought of as a portfolio of de-risked opportunity.

VC capital and the entrepreneur

For entrepreneurs to be successful they need to have a realistic understanding of the startup failure rate. No one thinks their company will fail, but it's important to realize the reality that success doesn't happen overnight and the odds are not in your favour. Looking at the statistics from the USA, it breaks down like this. There are approximately 3 million new businesses incorporated each year, but of these only around 700.000 hire another person besides the founder. So what's the failure rate of these 700.000 startup hopefuls? As we only want to know the failure rate of venture backed startups, let's start by looking at how many of these might actually get funding. "Tracking data from Gust shows that angel investors invest in roughly one out of every 40, or about 2.5 percent, of the companies they see. (And this is high compared to VCs, who are far more picky; According to the U.S. Small Business Administration, venture capital funds invest in fewer than 1 in 400 companies who pitch them.)" This leaves us with around 1750 VC backed startups a year. (Rose, 2015)

Of all venture backed startups, research by Shikhar Ghosh shows that *"If failure refers to failing to see the projected return on investment, then the failure rate is 70 to 80 percent. And if failure is defined as declaring a projection and then falling short of meeting it, then the failure rate is a whopping 90 to 95 percent."* (Holtscheke, 2016)

Despite these staggering statistics, stubborn entrepreneurs keep finding new companies, even with this ~90% failure rate having become somewhat common knowledge. This raises the question why do they do this? Its doubtful that many of these entrepreneurs have harbored dreams of starting a SaaS company or messaging app.

"Sometimes this is due to naïveté and hubris—the notion that their idea simply cannot fail. But savvy entrepreneurs know that running a company that eventually fails can actually help a career. Even failed businesses yield future networking opportunities with venture capitalists and relationships with other entrepreneurs whose companies are succeeding." (Nobel, 2011)

But the entrepreneurs are not always to blame for this state of affairs - VC funding is a dangerous game to play. Serial entrepreneur and founder of YCombinator Paul Graham describes it like this: *"The problem with VC funds is that they're funds. Like the managers of mutual funds or hedge funds, VCs get paid a percentage of the money they manage: about 2% a year in management fees, plus a percentage of the gains. So they want the fund to be huge-- hundreds of millions of dollars, if possible. But that means each partner ends up being responsible for investing a lot of money. And since one person can only manage so many deals, each deal has to be for multiple millions of dollars. This turns out to explain nearly all the characteristics of VCs that founders hate."* (Graham, 2005)

This view helps explain why VCs do endless due diligence before making up their minds. With so much at stake, they have to be paranoid.

It explains why they steal your ideas. Every founder knows that VCs will tell your secrets to your competitors if they end up investing in them. It's not unheard of for VCs to meet you when they have no intention of funding you, just to pick your brain for a competitor. This prospect makes naive founders clumsily secretive. Experienced founders treat it as a cost of doing business. According to Graham the only reason why VCs are so sneaky is the giant deals they do. With so much at stake, they have to be devious. (IBid)
It explains why VCs tend to interfere in the companies they invest in. They want to be on your board not just so that they can advise you, but so that they can watch you. Often they even install a new CEO. (iBid)

The huge investments themselves are something founders would dislike, if they realized how dama-

ging they can be. VCs don't invest $x million because that's the amount you need, but because that's the amount the structure of their business requires them to invest. (iBid) Google survived enormous VC funding because it could legitimately absorb large amounts of money. (iBid)

Giant investments mean giant valuations. They have to, or there's not enough stock left to keep the founders interested. Some have the idea that a high valuation is a great thing. Many founders do. But you can't always benefit from a high valuation unless you can somehow achieve what those in the business call a "liquidity event," and the higher your valuation, the narrower your options for doing that. (iBid)

Many founders would be happy to sell their company for $15 million, but VCs who have invested at a pre-money valuation of $8 million won't hear of that. You're rolling the dice again, whether you like it or not. (iBid)

Overdosing on VC

It is true that there are a few companies founded each year that drive the bulk of the returns. It is also true that in the case of only a couple of outliers (Facebook and Twitter), heavily funding the best companies is a winning strategy for investors. However, It is not clear that VCs have been able to consistently identify the best performers and have instead overfunded even the most successful companies.

Companies like Facebook and Twitter are critical for the health of the ecosystem, but are not a good model for other startups. Unless a founder is very confident that they are building the next Facebook scale business, they would be better served focusing on creating higher multiples instead of a higher exit value. (Paley & Flaherty, 2016)

VC can afford to risk overfunding a dozen companies in order to be a part of the epoch-defining winners, but often entrepreneurs only have one shot. (iBid)

Paley & Flaherty's hypothesis is that too much capital over time creates a culture that substitutes cash for creativity and operational discipline. Big balance sheets allow companies to grow inefficiently, to paper over problems with headcount and spend, rather than confronting the core engine of value creation. (iBid) Having less money forces a management team to make hard decisions early on and to cut off potentially wasteful problems that otherwise could linger indefinitely. This efficient ethos becomes part of the long term culture of productive performance that is difficult to infuse in the enriched companies that never operated in a constrained way. (iBid)

If you're having success, money will be thrown at you. (iBid) Having a strong balance sheet can be a good thing, but it does limit optionality and creates more difficult exit paths. Capital is rarely your biggest constraint or the biggest opportunity in front of you. Worst of all, the evidence shows that there is a limit to how much your balance sheet will help the long term value of your company even

in the very best outcomes. (iBid)

Premature scaling

The startup genome report has published survey data from 3200 startups, concluding the number one reason 70% of startups fail, is because of what they call premature scaling.

"spending money beyond the essentials on growing the business (e.g., hiring sales personnel, expensive marketing, perfecting the product, leasing offices, etc.) before nailing the product/market fit."

The reason that premature scaling kills startups is primarily two-fold. First, premature scaling uses up your precious cash more quickly, which means you have less runway to discover that you were wrong and readjust. One of the smartest strategies for a startup is to save cash wherever you can because it gives you more chances to try and get the fit between your product and the market correct. Premature scaling actually makes you less agile. Specifically, when you start hiring people and investing in your product, you become organizationally and mentally committed to your current approach. You've paid money and obligated yourself to a particular product or strategy and doing this makes it that much harder to change. (Marmer, Herrmann, Dogrultan, Berman: 2016)

You get locked into a preset path, with no option to change the course. Put differently, startups fail because they limit their optionality, by spending money on things they don't need before that have validated their business models and found some sort of product/market fit. This is what makes this concept so important for entrepreneurs and investors to understand.

However VCs are supposed to be much more than just money for entrepreneurs. The common pitch from a VC to a budding entrepreneur, is that they are value added. They offer experience, operational and industry expertise, an extensive network of relevant contacts and potential employees, a range of services for start-ups, and a strong track record of successful investing.

In some cases these non monetary resources really are valuable. But VCs vary tremendously, both as firms and as individuals, in how much effort they put into advising and assisting portfolio companies. Among those who do mentor their CEOs, ability and the quality of advice can differ widely. There are no solid data about the industry's delivery on this mentoring promise.

Asking a 100 VC backed entrepreneurs how much they gained from that relationship, you are bound to get a variety of answer. Some would probably praise them, some would laud how active they are, but not find them much help, and some would be happy just taking the check and being done with it, feeling like the VC have provided them with nothing else. For founders who have bought into the idea that VCs provide lots of value-added help, it can be a source of great disappointment (Mulcahy, 2013).

This suggests, that the external capital market is not really more efficient than the ICM in investing in innovations with uncertain outcomes, they just apply more of a "spray and pray" methodology than

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most corporations.

And a further note is that entrepreneurs who recognize these dangers, try to bootstrap their business and often end up quite happy and successful by doing so. These kinds of entrepreneurs and startups are thus outside the scope of this thesis.

So what do we fill our innovation portfolio with? How do we think about when to invest and when not to? How do we cultivate options and select the promising ones?

This VC investing framework we have presented, works through trial and error, via negativa, and involves making lots of small bets, never one big one. The lean startup model can help generate and explore lots of options quickly, but needs entrepreneurial judgement to succeed.

10.

The young entrepreneur

If no market for judgement exists, and your internal supply of judgement is constra-ined, we argue that developing it internally might be the best and most cost effective strategy. But where do you look for undervalued talents in the market, that might display entrepreneurial characteristics and judgement? We believe young people are the answer to this problem.

It is not by coincidence that the newest generation according to the workfield are called Generation Start-Up (Asghar, 2014). Therefore we want to dig deeper and try to understand the young entrepreneur to find out what they seek and are motivated by.

Young people are freelancing, have a podcast/blog/youtube and want to be their own boss and create the next Snapchat, Instagram and Spotify. Only 13% want to be a CEO or president (iBid). But at the same time an entrepreneur want to be in touch with others, and learn from face-to-face meetings (51% want to talk in person, where 9% want to be contacted by the phone) (iBid).

According to an American rapport from Ernst & Young in 2016, young people also known as Millennials, admire entrepreneurs and would consider starting a business - if they had the financial means. Millennials overwhelmingly (78 percent) consider entrepreneurs successful, and 62 percent of Millennials have considered starting their own business (a survey with 1300 respondents).
The biggest obstacle keeping Millennials from starting their own business is money. 42 percent of Millennials lament that they don't have the financial means to start a business (Ernst&Young, 2016)
Kate Barton, EY Americas vice chair of tax services: *"Many of them hope for an opportunity to climb the corporate ladder. And while they truly respect entrepreneurship, they worry that they will not be able to overcome the significant financial and regulatory hurdles associated with starting a business."*

Lots of young people want to be entrepreneurs, but at the same time, they are starting fewer companies, because of the increasing debt. But that does also mean that there are some undervalued entrepreneurial talent on the market, where people want to make a difference and be entrepreneurial. So even though young entrepreneurs can't afford to start their own, companies can use that to their advantage and attract the entrepreneurial talents. Companies need more than ever to re-think their own business model, and challenge their value-chain, so why not combine the best from two worlds? As Chief Marketing and Innovation Officer Mark-Hans Richer writes (Richer, 2017): *"It is long past time to recognize that many businesses need to shed their 20th century, hierarchical and command-and-control structures and realize that the key to success in the 21st century is a more creative, courageous workforce."*

There are tons of intrapreneurs about to descend on your company, if you're lucky. Millennials[1], by so many measures, are one of the most entrepreneurially minded generations that has come along. According to a study made from Deloitte, Millennials would represent 75 % of the workforce in 2026 (Donston-Miller, 2016). And their entrepreneurial desire is strong. Freed from the expectation that they should work in a steady job or two for the next forty years, and shell-shocked from the Great Recession enough to know they have to be bolder in career management in a Gig Economy,

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[1] *People born between 1981-2000 (http://www.wmfc.org/uploads/GenerationalDifferencesChart. pdf)*
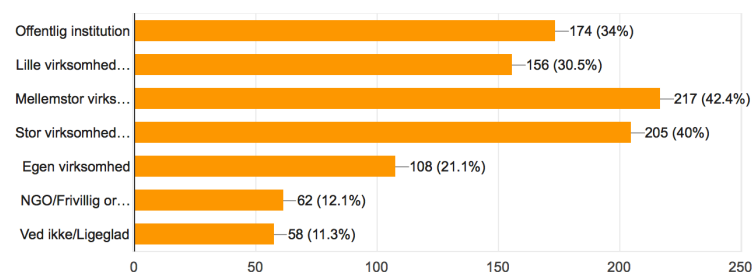
Millennials seek challenge and inspiration and creativity and the ability to challenge existing thinking and make a difference - not tomorrow, now. They are willing to move around to get it, and not just work the same place as their parents. If you do not create an intrapreneurial culture that welcomes these traits, instead of a culture that mainly protects against risks, they will not stay. And you will lose a courageous workforce. (Richer, 2017)

Part of the problem is traditional corporate attitudes about intrapreneurial traits in employees. Intrapreneurs are often seen as risks to your company and culture, disrupting your carefully calibrated everyone-get-along team environment. And in the 20th Century corporate culture, these risky individuals would get managed out, a risk to the status quo (iBid). Now your young employees aren't an expense for your company and seems as an investment. No, they create value, challenge the way you think, and want to be a part of the journey from day one.

In 21st Century business, however, the greater risk is continuing to accept the status quo you've created. Business today moves too fast, too globally with too many ever-changing variables and aggressive competitors and demanding customers - in Denmark people from 18-30 represent one fifth of the population, but consume one third (Harlev, 2016). That means it would make sense that your young Intrapreneurs are a primarily part of the innovative process, because they know the demanding customers, and what they want. By pushing your company, intrapreneurs help keeping your business safe from these variables. They are the lifeblood of your businesses' relevance and ingenuity, not a risk. You should be looking for the "trouble makers" and mavericks, those with the courage and drive to push your thinking and vision, not to keep them in line but to positively harness their energies. (Richer, 2017)

Hvilken størrelse virksomhed forestiller du dig at arbejde for efter endt uddannelse?

512 responses

Offentlig institution	174 (34%)
Lille virksomhed…	156 (30.5%)
Mellemstor virks…	217 (42.4%)
Stor virksomhed…	205 (40%)
Egen virksomhed	108 (21.1%)
NGO/Frivillig or…	62 (12.1%)
Ved ikke/Ligeglad	58 (11.3%)

From a scandinavian point of view, the results are significantly different. A recruitment analysis made from YoungConsult[2] who with 500+ respondents from the 8 universities in Denmark, shows that around 21% want to start their own company. In an informal discussion with the founder of Young-Consult, Andreas von der Recke point out: *"In Scandinavia, we have a different welfare system and another culture than the US and basically the rest of the world. That means that not everybody wants to be entrepreneurs immediately, but instead work in companies to gain knowledge, make impact, challenge their business for something better, and get to know the 'real life'."*

If an young entrepreneur wants to reach a scale that has real meaningful impact faster, established companies that have resources that fit the mission would often be attractive. If companies access competencies and capabilities that are hard to replicate, invest in knowledge sharing could result in great things.

Can we capture and put these young talented people to work in organisations to meet the challenges of running a company in the 21st century - constantly having to adapt to changing circumstances, renewing and reinventing itself, while at the same time defending and extracting good profits from current businesses before they mature and decline.

Jonas Schwarz Lausten a 30 year old young entrepreneur and co-founder of Nordic Villa & Hotel, one of the most successful Hotels in Nigeria and more popular than Hilton. He claims that if you want to make things happen, you must start it by your own and collect the right team to succeed. (Lausten, interview)

"One of our employees ask us about the typical workday in Denmark, and was surprised by the answer of 8 hours. By hers initiative, we reduce the workday from 12 hours to 8 hours. The result? Better service and more motivated employees which constantly challenge our hotels. That it why we are higher rated than Hilton on Tripadvisor etc." (Lausten, interview)

More entrepreneurship education at universities - larger debate of can it be taught, result of experience or innate skills - as we are ourselves studying it, we have to believe it can be taught - so we put ourselves squarely in the camp of believing in the benefits of education in entrepreneurship. Judgement is something that can be developed, and although mostly it's probably a result of failure - other people's failure and mental models can teach us a lot - the lean startup also provides a model for improving judgement as we show.

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2   *YoungConsult helps companies to attract and retain Millennials - www.youngconsult.dk/aboutus*

Recruitment costs

In Google they want to attract the top 1 % entrepreneurial minds, which create a result of high demands on both sides: from Google regarding abilities from the young candidates, and the other way around. That means that they were screenings on different stages, for instance through different personal and intellectual test. The European Head Office in Dublin, spent millions on finding the right candidates. As former HR-manager David Sandberg claims, he spent around 10 mio. Kr. each year to find young entrepreneurial talents. (Sandberg, interview)

"It makes more sense to screen and then select 30 people through online tests and fly them to Dublin, Paris or Rome and do activities with them, rather than I flew around to find the candidates. Many of them was finishing school or have just graduated. They meet some of the big Google guys, lived in 5 star hotels and everything was taken care of for a weekend. Eventually everyone got a job offer after the weekend, and 70% said yes and moved to Dublin." (Ibid.).

As former HR-manager David Sandberg claims, Google did everything to impress and make sure they find the right candidates. On his own budget he spent around 10 mio. Kr. each year to find the right young entrepreneurial talents. But he has the highest rate of attracting the right people to the organisation, because he did something exclusive for a small unit of maximum 30 people. (Sandberg, interview)

If you want to attract the best talents, who display judgement and have an entrepreneurial mindset, young people can be the answer. Millennials admire the life of being an entrepreneur, starting they own company, but can't because of the lack of money, which means there are a lot of undervalued talent. Business today moves extremely fast, and when danish people from 18-30 years old or in other terms one fifth of the population consumes for one third, they need to be a part of the innovation process. Young Scandinavian people want to gain knowledge from great companies, make impact, and challenge their business models for something greater. Companies need to rethink their hierarchical and structured business models, and with a new generation that are more entrepreneurial than ever, you can combine the desire from both worlds.

11.

Entrepreneurial Judgement

Going back to our original question: why would an entrepreneur choose to work in a large corporation and not strike out on his own?

We have presented some of the difficulties and challenges associated with trying to make innovation happen in these bureaucratic, hierarchical organizations relying on mechanistic control and financial metrics. Now, we want to look at who the entrepreneur is, what is his function, how does he carry out his work? What are the necessary conditions that enable him to succeed in innovation? To answer these questions we base this chapter on the work of Peter G. Klein and Nicolai J. Foss and their book "Organizing Entrepreneurial Judgment".

How and then are entrepreneurs and firms connected? Do entrepreneurs need business firms to carry out their function? Or, do firms need entrepreneurs to survive in the competitive market process? And if there is a role for the entrepreneur in the firm, what is it, exactly? How does the organization of the firm influence entrepreneurial actions? How does firm organization (e.g., the allocation of income and decision rights) affect the quantity and quality of entrepreneurial ideas?

Entrepreneurial behavior does not, after all, happen in isolation. Entrepreneurs have to employ scarce means to achieve their objectives, they must economize on these means and evaluate trade-offs at the margin, and so on. "A good theory of entrepreneurship should explain the conditions under which entrepreneurship takes place, the manner in which entrepreneurship is manifested, and the interaction between entrepreneurial activity and firm, industry, and environmental characteristics. In the contemporary entrepreneurship literature, entrepreneurship is typically seen as a theory of firm creation; once created, however, the firm ceases to be "entrepreneurial" and becomes dominated by "managerial" motives – a partial legacy of Schumpeter's early and influential work on innovation (Klein & Foss, 2012)." This certainly not the case though, as processes of firm formation, growth, and ongoing operation are continuous, and things that matter at the early stages do not disappear overnight.

This raises a more general question: What, exactly, is entrepreneurship then? An easy way of delineating different types of entrepreneurs and economic theories of entrepreneurship is to distinguish between those that define entrepreneurship as an outcome or a phenomenon (e.g., self-employment, start-ups) and those that see entrepreneurship as a way of thinking or acting (e.g., creativity, innovation, alertness, judgment, adaptation).

Much of the early work on entrepreneurship, namely Schumpeter and Knight, falls into the latter category, what Klein (2008) calls "functional," in the sense that entrepreneurship is invoked as a necessary step to explaining other phenomena such as economic development (Schumpeter) or the existence of the firm and profit (Knight). They used entrepreneurship and the entrepreneur to explain other phenomena at a higher level of analysis, they used it as a necessary analytical stepping stone to understanding those phenomena, so they tended to treat the entrepreneur in somewhat abstract and stylized terms.(Klein & Foss, 2012)

In contrast to this line of research, research in the management literature on entrepreneurship has tried to open up the black box and in explain in more detail entrepreneurial actions and the entrepreneur. Describing for example what kind of decision making biases the entrepreneur may suffer from, the different kinds of decision heuristics he may employ, the experience that serves as the base for his actions, his previous employment experience, the kind of uncertainty he is confronted with, certain kinds of networks he is a part of and much more. This line of research draws heavily from Kirzner's concept of entrepreneurship as "opportunity discovery".

In an influential statement, Shane and Venkataraman argued that management scholars in strategy and organization are fundamentally concerned with three sets of research questions, namely why, when, and how (1) entrepreneurial opportunities arise, (2) certain individuals and firms and not others discover and exploit opportunities, and (3) different modes of action are used to exploit

those opportunities. These issues include the issue of *"how the exploitation of entrepreneurial opportunities are organized in the economy"* (2000).

The research literatures on the theory of the firm and entrepreneurship can, we believe, be brought together to form a better theory of the firm and a fuller understanding of the nature and economic effects of entrepreneurship. From this perspective, the questions that arise in the intersection of entrepreneurship and the theory of the firm relate to the locus of entrepreneurship. We argue that economic theories of the firm are particularly well-equipped to understand not only the "exploitation," but also the discovery and even the evaluation of entrepreneurial opportunities.(Klein & Foss, 2012)

One of the goals then is to explain why entrepreneurs choose certain ways and not others for organizing their activities. These are important questions to try and understand, but seem suspiciously missing from much of the economics and management literature on entrepreneurship. When they are dealt with, it is often in a somewhat limited and stylized way.

For instance Lucas' (1978) general equilibrium model, is the foundation for much modern economics work on entrepreneurship. The model examines the matching of firms and entrepreneurial talent, given that entrepreneurial talent is unequally distributed. "Entrepreneurial talent" is really a portmanteau variable that includes entrepreneurial, managerial, and ownership skills. Lucas describes a matching between firm size and entrepreneurial talent, the most able entrepreneurs running the largest firms. This suggests one association between firm organization and entrepreneurship. However, it is unclear from Lucas' model why entrepreneurs would need firms at all. Why can't they perform their coordinating function simply by using contracts? Why are the governance mechanisms of the firm required?

"Relatedly, most of the economics literature on entrepreneurship treats its explanandum as companies, implying that entrepreneurial activity ceases after the start-up phase. Much management research on entrepreneurship has simply defined entrepreneurship as the creation of new firms, or, more broadly: organizations. Either way, established firms are simply excluded from the set of entrepreneurial agents in the economy in very large parts of entrepreneurship research." (Klein & Foss, 2012)

As is evident from the more recent strategic entrepreneurship movement however, established firms often engage in what is very much so entrepreneurial ways of acting. They are discovering and seizing new opportunities, exercising judgment over existing and potential resources, and introducing new products and processes (Hitt and Ireland, 2000). Established firms may wish to stimulate a kind of behavior inside the corporate hierarchy that seems fully "entrepreneurial" – what is often called "intrapreneurship" or "corporate venturing" in the management literature on entrepreneurship.

Established firms can reorganize themselves by using incentive pay or other devices such as decision rights, as we have shown in the chapter on organizational design.

Following in the footsteps of Foss and Klein, we argue that the Knightian conception of entrepreneurship as judgmental decision-making, provides an explanation of the entrepreneurial function that can be more smoothly integrated with the economic literature on the firm than other conceptions of entrepreneurship.

In management research, the dominant approach to entrepreneurship focuses on individuals' identification or discovery of profit opportunities. Furthermore it pays less attention to the means by which such opportunities are exploited. It tends to focus on the cognitive and behavioral characteristics of individuals who establish new enterprises. A parallel stream of research, the "entrepreneurial orientation". The literature are considering identification or discovery of profit opportunities at the level of firms. (Foss & Klein, 2012)

However, analyzing the resources used by entrepreneurs, both for the establishment of new ventures and the operation of existing ventures, sheds light on the manner in which perceived opportunities and real investments are transformed into value-creating activities. (iBid)
Thus, as we shall argue, entrepreneurial opportunities may be directly tied to why firms exist, because firms may be formed to exploit opportunities or facilitate entrepreneurial experimentation, and the allocation of ownership and property rights in firms may influence these activities within and across firms. (iBid)

The existence of the firm is therefore linked to the cost of trading entrepreneurial judgment. We argue that the understanding of the boundaries of the firm need to be at least partly understood as involving commercial experimentation with resource combinations that grow from the entrepreneur's judgment. This means that entrepreneurs are not just another resource in the context of resource-based approach to the firm, like physical and financial capital, reputation, human capital, technical know-how, and the like, but a higher-level, coordinating factor, that directs these other resources. This approach suggests that the basic explanation for systematic differences in firm-level performance is that entrepreneurs differ in their abilities to exercise judgement. (Klein & Foss, 2012)

The ability to organize resources is itself a capability, an ability to create and recognize strategic opportunities in the language of Denrell et al. (2003). For example, while firms may "empower" employees partly because employees increasingly demand a certain level of autonomy, and partly because leaving decision rights with better-informed employees may make much economic sense (Jensen and Meckling, 1992), empowerment, delegation, etc. also aim to stimulate initiative in a way that is best called "entrepreneurial." Such localized entrepreneurial efforts may contribute to the

many process improvements that together add up to the "learning curve" phenomenon (Zangwill and Kantor, 1998), may lead to interaction with outside parties (customer, supplies, universities, etc.) who control potentially important knowledge (Foss, Laursen, and Pedersen, 2011), can assist in product improvements, and may in some cases lead to important breakthrough innovations. Thus, the exercise of entrepreneurship inside corporate hierarchies can have important implications for organizational performance.

The disconnect between entrepreneurship and the firm is also present in the notion of entrepreneurship as alertness to profit opportunities, a notion usually associated with the work of Israel Kirzner, which is probably only overshadowed by Schumpeter's in terms of its impact on social science research. In particular, Kirzner's work has become increasingly prominent, directly inspiring a conception of entrepreneurship as a general phenomenon, centering on opportunity discovery (Shane, 2003). Kirzner's entrepreneurs do not own capital, they need only be alert to profit opportunities. Because they own no assets, they bear no uncertainty. Owners, managers, employees, and independent contractors can all be alert to new profit opportunities; Kirzner's entrepreneur does not need a firm to exercise his function in the economy. (Klein & Foss, 2012)

This view of entrepreneurship as judgment appears in many writers, but is most often associated with Frank Knight (1921). For Knight, firm organization, profit, and the entrepreneur are closely related. In his view, these arise as an embodiment, a result, and a cause, respectively, of commercial experimentation.

The perhaps more subtle reason for the disconnect between the two fields lies in a conceptualization of entrepreneurship – dominant in the economics as well as in the management literature – in which the identification or imagination of profit opportunities is separated from the process of exploiting or realizing such opportunities. In fact, many contributors to the entrepreneurship literature put all the emphasis on the discovery of opportunities and suppress the exploitation aspects, neglecting the assembling of resources, learning about resource attributes, putting conjectures about resources to the test, etc. The process of resource deployment to seize opportunities is implicitly treated as the domain of established theories in strategy, organizational behavior, the economics of organization, etc. rather than something that belongs to the entrepreneurship field.(Klein & Foss, 2012)

Likewise, management theories of economic organization and strategy, while paying substantial attention to the cognitive aspects of the discovery process, tend to treat opportunities as given once the process of resource assembly begins. In other words, established approaches both in entrepreneurship theory and in management treat opportunity discovery as a discrete event separating two distinct stages of the value creation process, giving rise to a separation into two sets of literatures, one on the processes by which plans are made, opportunities are perceived and evaluated, etc., and

another in which plans, once formulated, are executed through the deployment of resources. We argue that the separation of the value creation process into clearly delineated discovery, evaluation, and exploitation phases without feedback loops is artificial and misleading. In our perspective, opportunities for entrepreneurial gain do not exist, objectively, waiting to be discovered and exploited; rather, opportunities come into existence only as they are manifested in action. Of course, objective indications of an opportunity may exist, such as consumer research that reveals that consumers may demand certain not yet existing functionalities in certain products. However, such indicators do not automatically translate into opportunities, for two reasons. First, the objective indicators require interpretation; survey results may be objective data, but the knowledge embodied therein contains an essential subjective element (Foss et al., 2008).

Second, unmet market demands, once perceived, do not become opportunities without substantial commitment of resources on the part of the entrepreneur, including his own work. In other words, opportunities are largely created through forward-looking entrepreneurial action.

This is essentially the concept of entrepreneurship as judgmental decision-making under uncertainty. In this approach entrepreneurs are modeled as decision-makers who invest resources based on their judgment of future market conditions, investments that may or may not yield positive return. Because markets for judgment are closed, the exercise of judgment requires starting a firm; moreover, judgment implies asset ownership. In Knight's formulation, entrepreneurship represents judgment that cannot be assessed in terms of its marginal product and which cannot, accordingly, be paid a wage (Knight 1921 : 311). In other words, there is no market for the judgment that entrepreneurs rely on, and therefore exercising judgment requires the person with judgment to own productive assets. Of course, judgmental decision-makers can hire consultants, forecasters, technical experts, and so on. However, in doing so they are exercising their own entrepreneurial judgment. Judgment thus implies asset ownership, for judgmental decision-making is ultimately decisionmaking about the employment of resources.

In our approach, resource uses are not data, but are created as entrepreneurs envision new ways of using assets to produce goods. The entrepreneur's decision problem is aggravated by the fact that capital assets are heterogeneous, and it is not immediately obvious how they should be combined. (Klein & Foss, 2012)

The entrepreneur's role, then, is to arrange or organize the capital goods he owns. In the words of Ludwig Lachmann (1956), a key contributor to the Austrian theory of capital : "We are living in a world of unexpected change; hence capital combinations … will be ever changing, will be dissolved and reformed. In this activity, we find the real function of the entrepreneur." Austrian capital theory provides a unique foundation for an entrepreneurial theory of economic organization. Neoclassical production theory, with its notion of capital as a permanent, homogeneous fund of value, rather than a discrete stock of heterogeneous capital goods, is of little help here. Transaction-cost, resource-ba-

sed, and property-rights approaches to the firm do incorporate notions of heterogeneous assets, but they tend to invoke the needed specificities in an ad hoc fashion to rationalize particular trading problems - for transaction-cost economics, asset specificity; for capabilities theories, tacit knowledge; and so on. One way to operationalize the Austrian notion of heterogeneity is to incorporate Barzel's (1997) idea that capital goods are distinguished by their attributes. Attributes are characteristics, functions, or possible uses of assets, as perceived by an entrepreneur. Assets are heterogeneous to the extent that they have different, and different levels of, valued attributes. Attributes may also vary over time, even for a particular asset. Given Knightian uncertainty, entrepreneurs are unlikely to know all relevant attributes of all assets when production decisions are made. Nor can the future attributes of an asset, as it is used in production, be forecast with certainty.(Klein & Foss, 2012)

Entrepreneurs who seek to create or discover new attributes of capital assets will want ownership titles to the relevant assets, both for speculative reasons and for reasons of economizing on transaction costs. These arguments provide room for entrepreneurship that goes beyond deploying a superior combination of capital assets with "given" attributes, acquiring the relevant assets, and deploying these to producing for a market. Entrepreneurship may also be a matter of experimenting with capital assets in an attempt to discover new valued attributes.

Such experimental activity may take place in the context of trying out new combinations through the acquisition of or merger with another firm, or in the form of trying out new combinations of assets already under the control of the entrepreneur. The entrepreneur's success in experimenting with assets in this manner depends not only on his ability to anticipate future prices and market conditions, but also on internal and external transaction costs, the entrepreneur's control over the relevant assets, how much of the expected return from experimental activity he can hope to appropriate, and so on.

Because capital is heterogeneous, the attributes of capital goods are not always known, ex ante. Production takes time, and the results are uncertain, so the economy's capital structure does not fall into place automatically. Rather, capital goods must be deployed and redeployed in various combinations in attempts to produce particular consumer products, and someone has to do the deploying and redeploying. (Klein & Foss, 2012)

In the entrepreneurship theory developed by Cantillon, Knight, and Mises, that person is the entrepreneur, and the entrepreneur's primary role is to exercise judgment about the use of productive resources under uncertainty. We believe the lean startup approach and philosophy of experimentation (optionality) with, testing and validating business models bridges the gap between opportunity discovery and "exploitation" of it. But this raises the issue of how entrepreneurs fit into established firms, in terms of decision rights (asset ownership) and income rights and how to make entrepreneurial judgement happen.

Judgement becomes the act of resource allocation by an entrepreneur who holds knowledge categories that differ from everyone else's – in other words, entrepreneurs establish firms not because they have no knowledge of the future, but because their beliefs about the future cannot be easily articulated and communicated to existing resource owners. The entrepreneur believes he is right, while everyone else is wrong. Thus, the essence of entrepreneurship is being different - being different because one has a different perception of the situation. Good judgement is generally associated with confidence in one's judgement. Flexibility in the face of uncertainty is the overall message. These themes are mirrored in the lean startup methodology.

Lean startup as a model for developing judgement

Learning to be a better entrepreneur is a trained response, according to Eric Ries the founder of The Lean Startup. If you constantly work and pay attention while engaging in the startup creation process, you can learn by doing. According to Ries judgment about company formation gets better when it is systematised based on a scientific method.

There are two different reflections you need to learn from:
1. Jump into the fray and learn via making some mistakes and having some successes and
2. Engage with a community of others doing the same thing so you can learn vicariously from the successes and mistakes of others. Learning from the experiences of many people has a multiplier effect on the acquisition of good judgment. As Eric Ries claim for a better judgment by using a scientific method:

"The nice thing about relying on human judgment and using the scientific method is (we develop) a system for training judgment to get better over time." (Ries, 2014)

The Lean startup model provides a structured way to develop better judgement, with a learn by doing method according to Eric Ries. Furthermore judgment are developed when making mistakes, having successes and learn from a community among others experience, which has a multiplier effect of good judgment.

12.

The Chief Entrepreneur

Getting back to the question at hand: What benefits might be gained for the entrepreneur looking at the internal capital market and resources/capabilities available at an established company versus pursuing investment from the external capital market to start a new business?

We have looked at why innovation in large corporations is so difficult and why its happens by exception and not by design. Some of these problems include: resource allocation methods, processes, culture, incentives, KPI's and so on. These "antibodies" to change are harming the corporation's ability to innovate the future, by applying the wrong tools to the problem.

We want to propose a new structure that supports exploration/search, while the existing structure and processes / management systems handles execution/exploitation. We believe this new structure helps find a balance between exploitation and exploration, not overinvesting in exploration at the cost of exploitation, or vice versa. It does this by applying the three horizons framework - 70/20/10 rule of thumb.

Achieving ambidexterity - CEOs have to be both attentive to the present challenges and alert to new possibilities, but as we have demonstrated, CEOs are excellent at running and growing a known business model and have tailored the company's assets and processes towards that end, what they often fail to do, barring exceptional people like Jeff Bezos, is to innovate and reinvent the business. So if the CEO isn't one who can do this, who should be responsible for the company's future?

Inspired by Alexander Osterwalder, we propose that to achieve a balance of power between present concerns and future growth, we believe that CEOs need a partner for innovation inside their companies, someone who will create and defend processes, incentives, and metrics. This person would help encourage radical ideas and find new areas for growth. It's an executive who can help large companies reinvent themselves while they're still successful. And this new role needs to be at the C-level, because it needs to be as important as exploitation.

"You could call this person the Chief Entrepreneur (CE) — someone who can lead the future of the company while the CEO takes cares of running the existing business. This is a huge divergence from the traditional norm for chief roles, but the CE is a necessary position of power to ensure that a company innovates." (Osterwalder, 2017)

The Chief Entrepreneur will be responsible for managing a portfolio of entrepreneurs who experiment with new business models and value propositions. The candidate is someone with a passion for taking calculated risks. This is not a CTO role or a role that reports to the CEO. The Chief Entrepreneur is an executive as powerful as the CEO, with clear leadership over radical innovation within the company." Has complete control over horizon 3 activities.

The CE is often indistinguishable from the CEO in smaller organizations that are successful in launching new products and services, and heading off larger rivals. So, as a company grows and matures it's understandable why these 2 roles have to be filled by 2 very different, but capable people. "Excelling at exploitation and exploration simultaneously is extremely difficult due to the very different cultures, skills, tools and mindsets required."

The CE has the responsibility of building the future for the company. This is done by developing new business models that can drive the company's future growth. To do this, the CE has a team of entrepreneurs he guides and support. This requires someone experienced, that has been through this before and can share his knowledge. The job is to manage a team who will be searching for and validating new business models around opportunities for growth.

We have already touched on the importance of the right metrics for innovation and it's the job of the CE in collaboration with the entrepreneurs, to figure out what to measure, to make sure progress

is being made in building new businesses. These should be KPIs that are specific to the opportunity, with clear goals they can be measured against. Using the lean startup model, these metrics should focus on whether the experiments are helping the entrepreneurs to learn, reduce uncertainty and risk in their business model and move forward on the path to profitability.

This will require the CE to develop a close partnership with the CEO, as they will work together to ensure the exploration side has enough resources and assets to start experimenting and validating/invalidating hypotheses and whole business models.

"You will be responsible for building a partnership to discuss progress and share new ideas. Communication will be key to this partnership because the CEO is the person who can help finance your future experiments. You will also recognize the importance of handing over a validated business model that demonstrates opportunities to scale." (iBid)

If you really want to take innovation seriously, the CE should report directly to the chairman of the board of directors. If the CE were to report to the CEO, the CEO would be able to veto any investments and potential ideas, as they could be seen as potential threats to the company, attempting to safeguard against failure by denying resources. This obviously wouldn't work. The CE does not work for the CEO or on the same level as the CTO, CFO and so on, but should have the power to direct the future of the company - with board approval of course.

It will be difficult to gain support for and implement this kind of a structure, but every large company must face the reality of continuous innovation and disruption or risk becoming obsolete.

"The whole goal of the space for the future is about experimentation and learning. It's important to make sure that these experiments are being executed well, and that the learnings, findings, and knowledge are properly organized." (Osterwalder, 2017).

This new organization would also encompass some other roles that help the CE and the entrepreneurs to do more experiments cheaply, fast and then scale and integrate them into the existing organization, without doing damage to the company's brand or alienate existing customers.

Integrating from the third horizon, back into the first and building a bridge between horizon 3 and horizon 1, to gain access to resources present in other parts of the company, that the entrepreneurs can use. Using a number of different integrating mechanisms - the startups should be built from the start for successful integration back into the company, and there needs to be a team who can refactor the inevitable technical debt the project will take on. Its often about how to spin back, not spin off. "Gilbert (2003) proposed creating an active and credible integrator to help units cooperate, and Govindarajan and Trimble (2005) proposed systems and cultures that allow the parent and the separate unit to work together while maintaining their independence.(In Markides, 2013)" This

should be spearheaded by a senior person from within the company, that knows what goes on in most parts of the company, that has built relationships with people throughout the company and is able to quell fears and anxieties of the people who have the resources and assets that are needed by the entrepreneurs. (Osterwalder, 2015)

There should be a Chief Venture Capitalist who allocates the budget and manages financing rounds, based on incremental investments and milestones, but also helps defend optionality through pivoting etc. *"A project won't get full funding right away, but it will receive money in trenches. The Chief VC will provide angel investments to fund early, cheap experiments. When those experiments succeed and produce evidence, the VC will invest more money."* (ibid.).

The organization also needs someone to manage the innovation portfolio and to make sure the company is looking at a range of opportunities and business models that will create future growth. Some of those opportunities will be risky, some will be less. Some will have a potential return, while others will have a guaranteed return. It is the Chief Portfolio Manager's job to ensure the portfolio is filled with enough different opportunities. Understanding the environment the company is operating in, is critical to success - being able to adapt the portfolio to better fit the environment, depending on what's on the horizon in terms of competitors, new disruptive technology and so on.

Chief risk officer, makes sure that the experiments entrepreneurs run, don't put the company at risk. Some of the experiments a team conduct may be damaging to the brand and could carry legal liabilities. Legal can be a big constraint to experimentation in a company. Being able to do illegal things, like Uber and AirBnB, is a specific advantage that startups have over established corporations, one that is hard to overcome. (Osterwalder, 2015)

Entrepreneurs can't be salaried - there is no fair market wage for judgement - they need equity. They need asset ownership and the ability to make decisions about these resources quickly and without interference or being bogged down by lengthy approval processes. They should have the power to act fast, be agile and make quick decisions. This structure should facilitate decentralized decision making power - getting close to the action, the people who know about the technology, customers and market, have to be the ones to make the decisions - they should be afforded a high level of autonomy, only answering to the chief risk officer if they are doing something illegal or that can hurt the company in some way and the chief entrepreneur really should only provide guidance, not choose direction or fall into micromanagement.
The problem here might lie in the fact that these entrepreneurs don't bear the cost of exercising their judgement over uncertainty. They would gain from the upside, but have no real downsides. This could lead to some incentive alignment issues, a lack of urgency and excessive spending.

These new internal startups should be able to show an ROI over 7-10 years, just as a VC in the external capital market would expect. Anything faster than that, is great, but if these are real businesses built for scale, growing them multi billion dollar big, takes time, but one successful project, could be enough to finance the whole thing, as we see at Google X.

"It would be fair to say Google Brain (now called the Neural Network Project) is producing in value for Google something that would be comparable to the total costs of Google X — just that one thing we've spun out." (Dougherty, 2015)

This structure would also allow the corporation to experiment with new technologies and industries, building up capabilities incrementally as needed, for example hiring a few AI developers that can work in this horizon 3 and then scaling up new hires if it's successful and if not, they can go work on another project.

You shouldn't just make one big bet for the future, you need to make lots of small ones, find the ones that work and then grow them, scaling both profits and capabilities at the same time.
Making one big bet, that then fails, is probably the end of risky investments in innovation for a long time and back to business as usual (exploitation). That recovery could be hard.

In our view, this new innovation structure would make it more attractive for an entrepreneur to pursue innovation inside a large corporation, compared to taking his talents to a VC in the external capital market. But this new division of power and attention in the organization, would still have to prove itself to prospective experienced entrepreneurs looking to join, as they have spent a long time navigating and cultivating the networks of capital in the external capital market, that would permit them to pursue their vision. Perhaps looking to younger entrepreneurs just starting out to work under the chief entrepreneur, would be a more cost effective strategy.

The biggest bottleneck at the earliest stages of commercialization is access to entrepreneurial talent. We have to look at how to attract and retain the most talented entrepreneurs.

What comes first: the egg or the chicken? Or in other terms: what have the most importance, attracting or retaining employees? Google are one of the few companies who have an advantage of attracting employees, because a lot of people knows the development and importance Google have in the tech-world. But when hiring the top 1 % employees in Google you also need to retain the employees. And as David Sandberg HR-manager claims, when asking how much it cost for Google, before the employee generate value: *"It depend on the position and salary - but at least half to one full year in the position, and afterwards Google start to get value from the investments. That being said, each employee generate 1.3 million dollars each year."*

The challenging part in the question of attracting and retaining the employees, it is pretty clear for Google. The different part is to retain the employees. As David Sandberg claims, when your are in the Google universe, you have it on your resume and are attractive for other companies. Furthermore it does also means, that you are talented because of the difficulty of getting a job within the organisation.

"We did have 4 mio applicants each year. That means it is easier to be a student at Harvard, than working at Google." (Sandberg, interview)

Google are one of the companies who can't go unnoticed in relation to their culture mindset and the importance of the right culture fit. As David Sandberg claims: *"Google are first movers. They were the first to have a focus on employee care, breakfast, physical therapist once a week, doctors, fitness, etc. Everyone knows their products, and by having an organisation where you take care of your employees create a strong culture."* (Sandberg, interview)

But an innovation culture requires more than just making employees feel good, it is also about what is allowed, rewarded, celebrated and what is not.

"Failure is an option here, if things are not failing, you are not innovating enough." (Elon Musk)

Knowing when not to invest further and shut a project down, becomes even more important than generating lots of options. As Astro Teller, the Captain of Moonshots, from Google X, describes how they first try to find a projects achilles heel, the fundamental flaw in the idea that makes it unfeasible. Even still, they have a process where they reward failure, by giving employees a bonus for killing their own project. Either they believe in it so much, the bonus is irrelevant or, they saved themselves 6 months of working on a dead end project. Overcoming the sunk cost fallacy might be difficult though.

At Microsoft the CEO since 2014 Satya Nadella, implemented a growth mindset. That means that you need to invent and try different things to learn and constantly adapt to improve and create a culture of innovation. As Eva Kristiansen HR manager at Microsoft Denmark claims: *"You can not fail when it comes to innovation at Microsoft - it doesn't exist in our company. You can only acknowledge what you could have done differently, and then improve. We invest a lot of resources in having a culture of innovation."* (Kristiansen, interview).

Its very important to create this kind of a culture, where your entrepreneurs are not afraid of being labeled as failures, because they have to shut down what they have been working on. Instead, reward them and celebrate - they are now that much closer to finding a business model that can work.

"Failure and invention are inseparable twins. To invent you have to experiment, and if you know in advance that it's going to work, it's not an experiment. Most large organizations embrace the idea of invention, but are not willing to suffer the string of failed experiments necessary to get there." (Jeff Bezos)

But what drives this culture? How can it emulate the speed and urgency of a startup? What drives urgency in a startup? The founders vision(opportunity) and the burn rate (how much money he has left). In a large corporate - it's often competitors and crisis triggered by disruption. As Max Gozal points out, the urgency in LEO innovation lab is not the same as in a startup, because of the difference between creating your own job, your own baby, and being hired to do a job. This is the missionary or mercenary train of thought, and of course we want missionaries. In a startup, at the beginning at least, no one can shut your project down because they believe youre not qualified to run it, but in LEO, this happens constantly. Because of this, entrepreneurs don't feel the same connection to the things they are working on. Furthermore, they don't even receive any equity in LEO or in their own project (because there are no exits and LEO wants to keep the startups they develop internally).

So how do we reward these entrepreneurs? What's their incentive to do a good job? How is this best aligned with the company's interests?

"Financial reward is not everything, but it's an important one to retaining and rewarding talent that is responsible for your company's future." (Osterwalder, 2015)

Entrepreneurs are willing to risk almost everything, and sometimes more, to build their company and when they succeed they are rewarded handsomely as the founders and majority shareholders. The entrepreneurs inside companies that build a big business for the company get to enjoy continued job security (provided they didn't piss off a lot of people on the way). The bonuses they are rewarded with usually not amounting to anything near the value they have created for the company. Entrepreneurs in the ECM enjoy equity in the businesses they create. Why can't something like that exist internally for entrepreneurs?

The entrepreneur and team, receive a small stake in their startup project and in exchange for funding it, the company owns the majority. If it succeeds, they can buy back the rest at a later date. Spin backs, not spin offs.
Another quite intriguing idea is for companies to create an internal stock market where employees own and earn a stake in their efforts. What if entrepreneurs and other staff are allowed to invest their own money, because they truly believe in the startup?

So if we can mitigate some of the problems around autonomy/decision making/asset ownership and

incentives/income rights - the question still remains, why choose the large corporation to work in?

In relation to the idea of a purpose being very important. The benefit of working in a large corporation, is that the innovations you develop, have a chance of seeing massive adoption quickly, unlike in most startups. This opportunity for your work to have a big impact immediately, is a motivating factor for entrepreneurial talent and is key in attracting the kind of people the corporation would not have access to previously.

Bao Nguyen, from Walmart Global eCommerce, claims: *"Technologists say that when you work at a startup, you are able to launch things really quickly like an app, but there isn't really much traction. In our company, they can build something, launch it and millions of people will use it. That's what we think has been key to our success in hiring these great technologists."* (Capgemini, 2014)

Organizations can therefore use their innovation labs or horizon 3 organizations to showcase their brand strength, startup culture and commitment to innovation and use this to attract top talent at universities. One of the most difficult tasks for companies is to attract and retain the right employees, but what comes first? Google has some advantages related to the attraction part, but at the same time a strong culture is alfa omega to retain employees. But having a strong culture where people feel good is not enough, you need employees that have the ability to try again even if you fail to innovate. At Microsoft you can't fail when it comes to innovating new products, better practices etc., you acknowledge what you would have done differently and then you can consciously improve. And at Google they reward entrepreneurs who shut down their own project earlier than expected, a so-called reward failure. Those kind of initiatives creates a strong innovation culture.

13.

Discussion

Having outlined what we consider to be an organizational structure and design with complementary management processes, that are attractive for an entrepreneur - compared to working at a "traditional" large company, we will now discuss some other important considerations for both the entrepreneur and for the company he might choose to work for.

We have identified young entrepreneurs as a possible source of fresh blood for the organization, but there is a need to develop their entrepreneurial skills and judgement, as well as their general knowledge of all activities across the three horizons. We propose a graduate program as a possible solution to this. But to retain them and other entrepreneurial talents in the organization, we want to also discuss how having a career track for entrepreneurs can be vital for retaining them.

Entrepreneurial Graduate Program

You have different kind of young people who starts in horizon 1 then Horizon 2 & lastly horizon 3. The way it can be deconstructed is by a selection phase. This means that you are concerned with the company's core business (horizon 1), you get insight in the different business units and how they work, knowledge which you can't gain from reading books (experience through execution of tasks), and then move from activities in horizon 1 and later on horizon 2 and lastly horizon 3. The taste for knowledge which can challenge the company in a new way, by having a Graduate Program, where young entrepreneurs gain a little bit of knowledge about the culture, processes, strategy and so on of the organisation and get a holistic picture of the company. It is possible to create better business models in collaboration with others and at the same time, develop your judgement more efficiently. When you furthermore follow a program among others you can get gain insights and reflect on the everyday processes - you might even think in new ways you would not know of, and in interaction with your team start developing competencies you did not have on your own. But an entrepreneurial graduate program need to acknowledge the different types of personalities, skills etc., and change it from a one-man-army mindset to the more community-based approach. Because that is where the magic happen.

What can you as a company, gain from that perspective?
- A strong learning curve where you start to develop capabilities within the company you could not get from outside. That means you are more ready for a potential business case, because of the knowledgment of which challenges the company face, both internally and externally.
- Companies get insiders in horizon 1 and 2 as well as developed their horizon 3 with entrepreneurial talents who challenge and has a different perspective than the more experienced workforce at the company.

Entrepreneur career track

Having a separate career track for entrepreneurial talent in your organization, could potentially have massive benefits. Bringing people from every part of the company into the innovation mindset and culture that has to permeate the entire organization. You can't just exclude the majority of the people in the company from innovation related activities. You can start with a hackathon or similar innovation sprints, and then select the promising talents and ideas for a tour of duty in either horizon 2 or 3 innovation. These are not just entrepreneurs, but also engineers, designers, anthropologist, lawyers, accountants and finance people and so on. Some people will prefer the more hectic environment of horizon 2 or 3 innovation, compared to horizon 1 activities, but maybe not for extended periods of time, and should be able to choose if they want to be assigned back into horizon 1 after they have finished a horizon 2 or 3 project.

Teach lean startup innovation management skills to employees that are interested. This is not just a

career path for creating more mid-level managers, but for actually developing innovation capabilities across the organization, with the added benefit of loyalty, as described in organizational design. This career path would eventually promote those who have proved themselves capable of good entrepreneurial judgement to horizon 3 and enable them to run their own startup as the CEO, inside the corporation, perhaps resulting in a C-level position or similar.

As Jacob Theilgaard from Implement claims as one of the most important things when developing and innovating new ideas, are that everyone's ideas are a product of others. Therefore is an idea and one person not enough.

"There must be momentum: an idea and a person is not enough. There must be some help to challenge, drive and make sure the idea will be unique. Different skill profiles and diversity must be present. Ideas arise in systems and people among each other. So teams are essential." (Theilgaard, interview)

The entrepreneur Jonas Schwartz does comment on the importance of having the right community. And as Jonas claims, the investors invested in his project, because of the team he has gathered (Schwartz, interview).

"The community is extremely important in all aspects. It shapes me, and that is why it is important that the people I surround myself with (our investors, employees etc.), are people I can see myself in. Therefore my employees must be empowered by the same. They come to work even on their holidays."

The community is a central part of being a person and a company. According to Schwartz you need to create co-ownership, and it does not need to be equity. You need to include and not exclude - and make sure that your employees competences are used in the right way. Even though you are the CEO, you need to trust the competences in your team according to Jonas Schwartz.

"No ideas are bad for staff meetings. We include all, where housekeepers are experts in what they are doing, and therefore it is natural to get their ideas and views for our innovation process."

The Courage To Innovate

First, entrepreneurs are by nature troublemakers. They tend to question authority and it's par for the course for a self-aware, but neglected entrepreneur to either resign from or get fired from a high paid corporate gig. So perhaps a word of caution is necessary. (Glaveski, 2015)

It's not just enough to hire innovative thinkers, but you must ensure that the right environment is created to recognize, support and nurture their abilities. Otherwise your investment in finding and training the right people, may go unrewarded and you may have just been better off hiring run of the

mill process-oriented thinker, for if nothing else, their payback on the initial hiring cost. (iBid)

Entrepreneurs often have to pitch to a lot of investors before they find someone that agrees to put money into their startup. They go from no to no, until they finally get a yes. If companies follow the traditional processes as we have outlined them, the entrepreneurs has to do much the same internally, but here only one no is enough to stop the project dead in its track. Business plans that promise the world to attract funding, but fails to deliver on unrealistic projections (remember 95% of VC backed startups fail in this regard), creating resentment from the manager who put his "trust" in you, but now "has to" fire you for failing. This resistance is not very attractive for the potential startup founder, so unless the company adopts lean startup and business model thinking into their budgeting, using a portfolio of optionality, instead of business plans and broken promises - the company might be good at attracting talent, but not at retaining it. Retaining entrepreneurial employees then, is about realistic expectations about the nature of innovation, uncertainty, failure and optionality, but also shared ownership of both the risks and rewards. Otherwise good talent that gets blocked end up leaving to start their own. They often don't fit into a corporation that haven't embraced horizon 3 innovation and the complementary culture of embracing failure, giving decision rights to innovators and the complementary income rights or incentives that follow.

The mentorship and guidance that experienced and good VCs provide, as well as the network they have access to for recruiting etc., might be very valuable in scaling/growing - could be hard to replicate inside an organization, but having a Chief Entrepreneur and VC and the resources available in a large corporation, as well as the networks/partnerships/suppliers etc. they have cultivated over the organization's lifetime - can provide much the same sort of support.

If resources allow for it, having a corporate venture capital (CVC) group enables engagement with the startup ecosystem. For technology, partnerships, but in this context, primarily for gaining access to entrepreneurial talent, either through M&A or developing relationships with individual founders through investments and board seats. There is a market for entrepreneurial judgement - it is just purchased at a premium (M&A). In this sense, judgement can be purchased on the market - it just comes at a great cost. The firm is acquired often not only for the technology, customers or markets they operate in, but for the talent the team possesses, in particular the founding team, what is often referred to as an acqui-hire.

Entrepreneurs looking to the ECM as a way to maintain their independence and autonomy of the startup and view the ICM as a job they have no control, have set up a false dichotomy for themselves. Pursuing VC investments, is just as likely, if not more, to influence your startup in a direction you don't agree with. This is because of how VC funds work, they only get paid from the massive returns of a few companies. This incentivizes them to higher and higher valuations, that the startup is not

necessarily the beneficiary of.

Board seats to VC, giving away too much equity, disagreeing with the VC - is likely to get you replaced instead of liquidation event. Taking on too much capital limits the amount of exit options you have.

"The story of venture capital is changing. Entrepreneurs have more choices for financing their companies, shifting the historical balance of power that has too long tilted too far toward VCs. Entrepreneurs will enjoy a different view as they move from the backseat into the driver's seat in negotiating with VCs." (Mulcahy, 2013)

For entrepreneurs looking to raise capital in the external market without giving away equity, they can now also look towards crowdfunding for financing.

As an entrepreneur, if you are choosing between the internal and the external, and you want to be able to run as many experiments as possible, as fast as possible for as cheap as possible, but still feel somewhat secure long-term, following the principle of optionality and the lean startup - being able to leverage existing assets and resources could potentially be a massive benefit, provided you have the autonomy, incentives and decision rights, to do so.

Its interesting to note that we are in the deployment phase of the current ICT techno economic paradigm (Perez, 2002). At this point in the cycle there is usually more consolidation, growth by market expansion and maturity of markets, this means less entrepreneurial activity. This would make ICT rely on improving user experience by developing all the pieces the innovation needs to function as a product and by lowering costs. Incremental improvements, not radical change. Driven by consumer needs, innovation would now no longer require a third horizon, but would be ubiquitous across the entire company.

Setting up a third horizon organization like we have argued, has its place when there is the threat of disruption around every corner and a rapid response is needed. Where there is no time for the established structures and processes to slow down and sabotage innovation efforts. If these sorts of threats become rarer or disappear completely, this ambidextrous organization we have argued for, would become unnecessary. CVC is replaced entirely by M&A, as valuations converge when uncertainty is low.

If economically worthwhile investment opportunities in innovation become smaller, rarer and happens more slowly, the ideas we have presented lose their value. The goal is then not to produce radical innovations, but sustaining incremental innovations, that are more measurable, predictable and controllable. Jerry Neumann (Neumann, 2015) claims that: *"These sorts of controllable and measurable innovation processes are already taking hold, both inside and outside the corporate world. It's no coinci-*

dence that the buzzwords in innovation the last few years have been 'lean' and 'customer development.'"

Furthermore he goes on to say that these methods are unsuitable for radical, fast-moving innovation and that they only work on slower more predictable innovation. To support this, he uses the now famous Henry Ford quote, that if he asked his customers what they wanted they would have said "a faster horse".

"The hallmark of a new technological revolution is that the innovation trajectory is unknown: lean doesn't work on early adopters because they will use anything novel which is pretty useless in predicting what mainstream customers want; customer development doesn't work when you're developing a general purpose technology. In general, you can't iterate your way to radical innovations, almost by definition" (Neumann, 2015).

However, as we have argued earlier, the only way to discover the next big thing, is through experimentation and optionality with convex returns. The lean startup methodology is particularly suited for this kind of experimentation. It's still up in the air if it only works incrementally or can produce radical innovations as well, but nonetheless it works by reducing uncertainty through hypotheses testing.

This corporate job for the entrepreneur can also offer incentives that are not just money, motivation that goes beyond mere monetary gains. Just as a startup founder is often out to change the world or "make a dent in the universe", ensuring you are creating value for customers through using the lean startup methodology, by creating things people want, you can find some of the elusive meaning and purpose that so many entrepreneurs crave, but you can now potentially have more impact from the scale offered by working at a large corporation.

If Perez's predictions are correct, this would mean that the amount of startups in ICT might fall, as the opportunities diminish, causing a surplus of entrepreneurial talent without firms. If uncertainty is high, entrepreneurs are needed, to exercise their judgement over the resources available and those needed. When uncertainty is low, there is less of a need to rely on judgement and more planning can be done. Turning the innovators from entrepreneurial uncertainty bearing asset owners, into business planning design managers.

What the next techno-economic paradigm turns out to be, is still unknown, but according to Perez's model we should be seeing its development by now. There are radical innovations out there that still haven't found the right business model or that still require lots of technological development to reach useable levels for high adoption rates. What these new radical technologies are, that create new markets and require entrepreneurial judgement because of high uncertainty, is debatable.

Maybe it's AI, the blockchain (although those are a part of ICT), renewable energy (Mathews, 2013), nanotechnology or something else entirely, but it seems like skilled judgement will be required for a bit longer. This is not the end of history just yet.

If the VC industry and external capital market in general continue to pursue investments in start-ups with the enormous funding rounds they do currently, it might be vastly more attractive for the entrepreneur to go this path, even with the high failure rate of VC backed startups. There is more willingness to invest in radical risky technology and business models. The next paradigm is more likely to come from a university or a venture backed startup, than the R&D and innovation labs of large corporations. But this is also why the horizon 3 organization needs to build new capabilities in these new domains, like AI, that still has room for new market growth or could be the next paradigm. Being prepared to adapt to not only technological changes, but also finding suitable business models, for this new environment.

The principal-agent problem and corporate entrepreneurs

"An important caveat: Clearly if an Intrapreneur is simply only out for their own agenda, and not that of the company's objectives or customers, then this is a different leadership and management challenge and must be addressed. But it is worth it for the 21st Century leader to check any too-easy assumptions about an intrapreneur's intent, and instead judge their results, as long as they are aiding the team and the company." (Richer, 2017)

This is really an issue of incentive alignment. When there is a separation of ownership from who is in control, this creates interest alignment problems. This is a particularly relevant issue around decision rights and income rights. In this thesis, it has surfaced around the entrepreneurs we want to enable to make quick decisions about corporate resources, as this control can be abused and the resources used for private purposes, especially if there is no accountability or oversight is absent.

"To have "skin in the game" is to have incurred monetary risk by being involved in achieving a goal. Taleb extends the definition to include any risk so that "Every captain goes down with every ship"... This removes the agency problem or in other words "*Situation in which the manager of a business is not the true owner, so he follows a strategy that cosmetically seems to be sound, but in a hidden way benefits him and makes him antifragile at the expense (fragility) of the true owners. When he is right, he collects large benefits; when he is wrong, others pay the price. Typically this problem leads to fragility, as it is easy to hide risks."* (Antifragile - Nassim Taleb)

This of course creates a few other problems - how do you both celebrate and reward failure, but also provide sufficient motivation on the part of the entrepreneur, to not act self interested, but rather in the interests of the whole organization. We have suggested a few ways to solve this issue,

such as giving the entrepreneur equity in the new venture or allowing him to invest his own money, thereby creating alignment. But however the corporation chooses to solve this issue, we believe this to be absolutely critical to a successful implementation of the kind of organization we have argued for in this thesis.

14.
Conclusion

In this thesis, the question we have explored relates to the decision for an entrepreneur, between working at a large corporate and trying to strike out on his own and pursue investment from angels or VCs.

This is an important question, for a number of reasons, as innovation and new growth is fundamentally about experimenting with, validating and building new business models. This requires making judgements about the future trajectory of markets, customer behavior, technological development and countless other factors. In the literature, this function is best ascribed to the entrepreneur, who bears the uncertainty. Various theories describe the relationship between the entrepreneur and the firm, some simply connecting the most talented entrepreneurs with the largest firms, some assigning this function to executives and upper management. Using Klein and Foss, we have argued that this judgement can't be bought on contract or easily established a fair market wage for, which in a sense further constrains the supply of entrepreneurial talent, because they are not on the job market. To bear this uncertainty, and both the potential massive upside and downside of it, requires the entrepreneur to have asset ownership, as judgement is decision making under conditions of uncertainty and the entrepreneur has to imagine and put to the test new combinations of those resources he has under his control. We believe that the more modern entrepreneurship and innovation as management approach of the lean startup methodology can be used to explain how the entrepreneur exercises his judgement, systematically trains it over time through failure, learning what does not work - a concept we also link to optionality and the notion of via negativa. In this way entrepreneurial judgement is found in how his different hypotheses about the future states of customer's, markets, technology and so on are either validated or invalidated as the entrepreneur explores just how well his vision of the future matches up with reality, while staying open and flexible, by pivoting and adapting his business model.

Entrepreneurs are often weary of going to work at a large corporation, because of the horror stories you hear. We have looked at a lot of the difficulties an entrepreneur faces in a large company, from underinvestment in risky, uncertain long time to ROI investments, to the hoops you have to jump through, such as writing a business plan, the organizational issues and the tensions using the same exploitation culture produces, when the goal is exploration. Using the theory of the ambidextrous organization, we argue that for firms operating in dynamic and fast changing environments, they have to be able to simultaneously do both, but also strike a delicate balance. Not overinvesting in exploration at the expense of the company's current operation, but not being so focused on this exploitation that they are not prepared to take advantage of future growth opportunities. This requires setting up separate physical structures that can simultaneously do both.

A strong culture needs heroes and stories that can guide people in new directions - acknowledge the person that created a new business model, saw a business in another segment than what the

company was already engaged in or something completely different. For companies that execute or extend current business models at horizon 1 and horizon 2, stories revolve around heroes and rebels, which manage to do something different related to the existing way and processes. We have tried to describe how innovation often happens, not by design, management or process, but by heroic efforts despite all the things put in place to block it. We have looked at the promise of innovation labs and the sad reality, that all too often, they amount to nothing but PR and innovation theater.

To maintain sustained growth over a long period of time, you have to keep a pipeline full of business building initiatives, where new growth engines are ready to take over, when your existing ones begin to lose steam. The dilemma for most managers is that they have to focus on keeping their current core businesses alive, while also paying attention to where they are heading in the future, as we have introduced as horizon 3. We propose the three horizons framework as a perspective that can help structure discussion and investment in innovation, which can make the purpose of an Innovation Lab or other type of horizon 3 organization clearer. But the disconnect between what happens "on the ground" or "outside the building" as Steve Blank would say, is a much different affair than what can be gleaned from looking at business plans and financial metrics. This works great when certainty can be determined through for example historical data of sales and when working with known customers, but when it comes to more uncertain growth innovations, these things are not determinable in terms of IRR, RONA or other financial metrics. This puts the traditional budgeting processes of firms utilizing internal capital markets in a difficult position, because it treats resource allocation the same across horizons. We argue that investments in horizon 3, have to follow a different model, more akin to how VCs invest in startups, where a portfolio of de-risked opportunity, optionality - working via knowledge of what doesn't, requires embracing failure and bad ideas as the cost of doing business in the third horizon.

To keep challenging the status quo and developing new businesses and business models, companies are in need of talents. 20 % of all young people want to start their own business, and if they gets blocked and the company does not give them the judgement and foundation of creating new business models, they leave to start their own. Millennials have a financial challenge, which companies can benefit of, by combining the best from both worlds - if companies acknowledge the young entrepreneurs and help them develop their judgement, while they have the economy, resources, knowledge, and capabilities, both worlds can learn from each other and create value for customers, wealth for shareholders and the meaning and purpose that young entrepreneurs crave.

Our belief is that for companies to attract and retain entrepreneurial talent, they have to fully embrace their value and show they are serious about working with entrepreneurs, not merely having entrepreneurs work for them. So we set out to design a new organizational structure that would embrace innovation and the rebels that champion it. A structure that could work in tandem with the

existing execution machine, but show that thinking ahead and differently, is valued by the company. That failure in business model experiments are not career suicide, but a chance to learn and develop better judgement. We believe that entrepreneurs are fundamentally interested in innovations for the change they bring, by the value they create, not just for themselves, but most importantly for their customers. This doesn't mean they're not interested in personal glory or immense wealth, they should surely be rewarded for their work, we believe through equity in the businesses they help create, but we think they are looking for purpose, meaning and impact. Working in a large corporate setting, would allow them to leverage the existing assets and resources that firm possesses and harness that towards building something new that can quickly reach massive scale and impact potentially millions of customers. We argue that a chief entrepreneur mentoring a team of young entrepreneurs, with the mandate to build new business models, supported by a VC portfolio style of investing - can create new valuable businesses, if the entrepreneurs are given the necessary decision rights that allow them to fully exercise their entrepreneurial judgement within the context of an established company.

15.
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16.
Appendix

Appendix 1

In this thesis, we have chosen to use qualitative interview as our method. It is our premise that find the interviews usable in relation to our response to the task. There are different kinds of interview, but the form we have chosen for the thesis, does focus on a research interview. The aim is to exchange views between six people and provide a thorough verification of knowledge (Brinkmann, Kvale 2008). Our choice of informants in our interview is declined on the basis of their different functions at different companies, and that they was including under the term, knowledge workers. A larger interview by employees at Microsoft, Google, Implement, Nordic Hotels, Leo Pharma and, has given insight into each of the 5 informers subjective statements, and contribute to greater knowledge in the field (Brinkmann, Kvale 2008).

We have interviewed:

Division	Informant	Role	Data Type	Length (in min.)
Implement	Interviewee 1	Senior Consultant	Semi structured qualitative interview	49 min.
Priviously Google	Interviewee 2	University Programs Specialist	Field notes	64 min.
Nordic Hotels	Interviewee 3	Co-owner	Semi structured qualitative interview	68 min.
Microsoft	Interviewee 4	HR manager	Semi structured qualitative interview	58 min.
Leo Pharma	Interviewee 5	Internship at LEO Innovation Lab	Field notes	57 min.

The table presents the specific informants as well as their organisational role. It also includes information regarding the data type and documentation method used, as well as the length of each interview.

Appendix 2

Interview guide 1
1. Decision making power: is it top down or bottom up?
2. Resource allocation, how is that allocated in your organisation?
3. Investment decision process - innovation portfolio?
4. Politics in who gets access to resources?
5. What slows down innovation?
6. Proposal/approval process for your company?
7. What can help facilitate faster and smarter experimentation?
8. Who are the type of people that thrive in these environments?
9. Do you have dedicated innovation teams or units?
10. Can entrepreneurial judgement be identified and developed? How?
11. How much do you spend improving existing products vs creating new ones?
12. Aligning incentives with long term thinking, failure and the improbability of successful innovation?

Interview guide 2
1. Execution vs search - individual types of people / chaos vs structure
2. What do you look for when hiring for an R&D position?
3. Retaining the most talented innovators, what are the biggest challenge?
4. How would you measure the performance of an employee engaged in long term innovation, without metrics that reliably indicate how well that person is doing his job?
5. Innovation involves lots of failure, misjudged "opportunities" and resources wasted in the pursuit of something that turns out to be of little value. How do you reward this type of behaviour and not punish it?
6. Aligning incentives with long term thinking, failure and the improbability of successful innovation?
7. No fair market wage for judgement, decision making under uncertainty, exists. However, we have identified this as one of the key issues why long term corporate innovation fails to materialize. How can we fix this and bring more entrepreneurially minded individuals into larger corporations?
8. What are the benefits of working at an established organization vs starting out on your own?
9. How much does a hiring-mistake cost for you? How long he or she must be employed in order that he/she has earned money home in profile.
10. What is the biggest challenge to attract or retain the entrepreneurial minds?
11. Do you buy other start-ups as a supplement to your business? If yes, because of the team or the product? Or maybe both?
12. How do you lead the entrepreneurial minds? Is there a difference between divisions, levels and competencies?
13. How do you recruit for a position with no job specs? / not a specific function

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Interview guide 3

1. Vil du starte med at fortælle lidt om dig selv samt din baggrund?
2. Innovation i regeringen/det offentlige - hvad er forskellen samt lighederne indenfor det private?
3. Hvad er barrierer for innovation?
4. Hvordan kan man facilitere og fremme innovation? Culture, processer
5. Hvad har man brug for som innovator?
6. Hvilke udfordringer har du mødt?
7. Rollen startups spiller i innovation? Som acquisition target eller disruption agent?
8. Hvorfor er du selvstændig kontra ansat?
9. Hvor kommer innovation fra?
10. Vil du fortælle lidt om jeres rekrutteringsstrategi?
11. Hvilke KPI'er sætter i op når det handler om at udvikle noget nyt (metrics of innovation)?
12. Hvilke virksomheder er dygtige, når det handler om at skabe promoters/ambassadører på arbejdspladsen?