



Corporate Incubators: Promoting Disruptive Innovation and
Competitive Advantage to Mitigate the Innovator's Dilemma?

—
The Comparative Cases of
Bosch's Grow Platform GmbH
and
Deutsche Bahn's DB Intrapreneurs

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Dissertation written under the supervision of Peter V. Rajsingh

Dissertation submitted in partial fulfilment of requirements for the MSc in Management with
specialization in Strategy & Entrepreneurship, at the Universidade Católica Portuguesa,
08.01.2020.

Abstract

Title: Corporate incubators: Promoting disruptive innovation and competitive advantage to mitigate the innovator's dilemma? - the comparative cases of Bosch's grow platform GmbH and Deutsche Bahn's DB Intrapreneurs

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Keywords: Corporate entrepreneurship, intrapreneurship, corporate incubators, innovation, competitive advantage, innovator's dilemma, strategy

The global business environment is fast-changing with novel technologies and new entrants constantly altering the rules of the game. Many incumbents find their leadership positions increasingly precarious and threatened. In recent years, corporate entrepreneurship, or entrepreneurship from within, has gained importance as a strategy that potentially resolves this threat for companies. Many authors have established positive correlations between corporate entrepreneurship and firm performance. As a result, intrapreneurship has become more and more attractive.

One of the many forms of corporate entrepreneurship is the corporate incubator which aims to increase innovativeness and business model development in companies. This thesis analyzes corporate incubator programs with regard to their innovativeness, ability to create competitive advantages to determine whether they are a viable solution to the so-called innovator's dilemma proposed by Christensen (1997). To this end, a comparative case study approach was adopted with two representative institutions within German corporates analyzed. The results suggest that those programs are able to foster innovativeness and the entrepreneurial mindset in their parent companies and that they do also contribute to the parent's competitiveness. Although they cannot completely eliminate it, corporate incubators can further aid in mitigating the innovator's dilemma.

Research question:

Do corporate incubators and intrapreneurship promote (disruptive) innovation and competitive advantage to mitigate the innovator's dilemma? – the comparative cases of Bosch's grow platform GmbH and Deutsche Bahn's DB Intrapreneurs.

Abstracto

Título: Incubadoras corporativas: promovendo a inovação disruptiva e a vantagem competitiva para mitigar o dilema do inovador? - Os casos comparativos de grow platform GmbH da Bosch e DB Intrapreneurs da Deutsche Bahn.

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Palavras-chave: Empreendedorismo empresarial, intra-empendedorismo, incubadoras de empresas, inovação, vantagem competitiva, dilema do inovador, estratégia

O ambiente de negócios global está em rápida mudança com novas tecnologias e novos competidores alterando constantemente as regras do jogo. Muitos dos operadores em exercício consideram as suas posições de liderança mais precárias e ameaçadas. Nos últimos anos, o empreendedorismo empresarial ganhou importância como estratégia que potencialmente resolve esta ameaça para as empresas. Muitos autores estabeleceram correlações positivas entre o empreendedorismo empresarial e o desempenho da empresa. Como resultado, o empreendedorismo intra-empresarial tornou-se cada vez mais atraente.

Uma das formas de empreendedorismo corporativo é a incubadora de empresas que visa aumentar a inovação e o desenvolvimento do modelo de negócios nas empresas. Esta tese analisa os programas de incubadoras de empresas no que diz respeito à sua capacidade de inovação, capacidade de criar vantagens competitivas para determinar se são uma solução viável para o dilema do inovador proposto pela Christensen (1997). Para tanto, foi adotada uma abordagem de estudo de caso comparativo com duas instituições representativas dentro das corporações alemãs analisadas. Os resultados sugerem que esses programas são capazes de fomentar a inovação e a mentalidade empreendedora em suas empresas-mãe e que contribuem para a competitividade da matriz. Embora não possam eliminá-lo completamente, as incubadoras de empresas podem ajudar ainda mais a mitigar o dilema do inovador.

Pergunta de pesquisa:

As incubadoras de empresas e o empreendedorismo intraempresarial promovem a inovação (disruptiva) e a vantagem competitiva para mitigar o dilema do inovador? - os casos comparativos da grow platform GmbH da Bosch e da DB Intrapreneurs da Deutsche Bahn.

Acknowledgements

First and most of all, I would like to thank my supervisor, Professor Peter V. Rajsingh, for his continued support of this work, his insights on the topic, valuable contributions and his excellent input.

I also want to extend my gratitude to my two interview partners, who provided me with truly valuable insights about the two incubator programs, for their time and support.

I further would like to express my deepest thanks to my family for the many opportunities they have opened up for me, for trusting me with my endeavors and adventures, and for providing me with endless support and love.

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List of abbreviations

R&D	Research and development
CI	Corporate incubator
CE	.....	Corporate entrepreneurship
CA	.....	Competitive advantage
GmbH	.....	Gesellschaft mit beschränkter Haftung (Ltd)
DB	.....	Deutsche Bahn
AG	.....	Aktiengesellschaft (Plc)
HR	.....	Human Resources
MVP	.....	Minimal viable product

1 Introduction

“Innovation has become a matter of survival within today’s market environment” (Roessler & Velamuri, 2015, p. 2), and promoting innovation capacities and resources is a first order priority for business. Start-ups are often praised for their innovativeness, agility, and speed with which they bring new products to market in ways “that disrupt the competitive positions of incumbent firms” (Roessler & Velamuri, 2015, p. 2).

Corporates, on the other hand, tend not to be associated with innovation agility. Instead, they often simply rely upon their incumbent positions within an industry with R&D units focused more on incremental improvements of existing products and services rather than upon generating disruptive innovations (Deloitte, 2019). This appears perfectly rational, as large companies need to tend to the demands of their core business which sustains their existence. But in only focusing on current operations and on past behaviors and processes, these companies miss out on the opportunities associated with innovation in new fields (Gonthier & Chirita, 2019). Over time, large companies have lost the capability to sustain a competitive position as innovators (Blank, 2019). The fast-changing business environment, however, makes it clear that incumbents need to innovate in order to not be disrupted.

In an interview with *The McKinsey Quarterly*, strategy expert Richard Rumelt states that “there are earthquakes all the time [in business]” (Lovallo & Mendonca, 2007, p. 6). As companies try to solve daily challenges with creative new solutions, they strive to understand the various facets of innovation (Lassen, Gertsen, & Riis, 2006). However, establishing an innovative culture in a company with rigid structures and operations focused on efficiency poses serious challenges.

To avoid being disrupted, a large number of companies have turned to intrapreneurship and established corporate incubators (CIs) to foster competitiveness. As innovation is largely accepted as the underlying concept that constitutes every form of corporate entrepreneurship (CE) (Covin & Miles, 1999), the phenomenon has gained increasing attention over the past years.

Operationally independent from the core business, corporate incubator units are allowed to work in entrepreneurial ways and encouraged to drive innovation while being fully resourced by all areas of the firm (Christensen, 1997). Through exploration of new possible business fields, as well as by spreading an entrepreneurial mindset, incumbents hope to brace themselves against disruption and to mitigate the innovator's dilemma.

But the jury is still out as to whether these initiatives do indeed help secure competitive advantages (CAs) and long-term growth and prevent incumbents from being disrupted by start-ups. Although in recent years much research attention has been given to the concept of corporate incubators, there is little consensus about its various effects and few generalizable causal claims have been expounded.

This thesis analyzes the corporate incubator phenomenon, looking in particular at two large companies that have established incubator programs as a corporate resource in their innovation landscapes. It aims to contribute to existing research by linking the corporate incubator concept directly to the firms' innovative capability, competitive advantage, and to its ability to mitigate the innovator's dilemma. The research question is as follows:

Do corporate incubators and intrapreneurship promote (disruptive) innovation and competitive advantage to mitigate the innovator's dilemma? – the comparative cases of Bosch's grow platform GmbH and Deutsche Bahn's DB Intrapreneurs.

The thesis is comprised by seven chapters. First, the existing literature on corporate entrepreneurship, corporate incubators as well as relevant concepts on business strategy, disruptive innovation and the innovator's dilemma is discussed. Next, the methodology is presented. This section is followed by a description of the two chosen cases. Chapter 5 presents all findings obtained from primary and secondary data collection. The discussion part contextualizes the results with existing literature so as to draw broader conclusions and strengthen the findings. The thesis concludes with a summary of the major findings in Chapter 7.

2 Literature Review

A great deal of research has been conducted on corporate entrepreneurship, the other term for intrapreneurship. But while interest in the field continues to grow, there is little firm consensus about what CE is, nor about how to achieve it (Covin & Miles, 1999; Guth & Ginsberg, 1990). The same is also true for disparate objectives and structures seen across various corporate entrepreneurship programs (Narayanan, Yang, & Zahra, 2009). In order to resolve this lack of clarity (Kuratko, Montagno, & Hornsby, 1990), the discussion that follows identifies the forms of CE and incubators and introduces strategy and innovation concepts relevant to this thesis.

2.1 Corporate Entrepreneurship - Intrapreneurship

Innovation today is more important than ever and is typically associated with entrepreneurship (Baden-Fuller, 1995). Thus, corporate entrepreneurship or intrapreneurship, which seeks to promote innovation within large, mature companies, has gained significant attention from scholars and practitioners (Antoncic & Hisrich, 2001; Ibrahim, 2016). Burgelman (1983) stated that a certain degree of entrepreneurial activity needs to be fostered in organizations if they are to continue to be viable.

One of the first definitions of CE stems from Burgelman (1983) who labelled the process whereby firms engage in diversification through developing internal “corporate venturing.” This diversification entails new resource combinations and extension of a firm’s activities into areas unrelated or marginally related to the firm’s current domain of competences. Guth and Ginsberg (1990) put forward the idea of ‘business venturing’ and ‘strategic renewal’ as two methods of corporate entrepreneurial activities. Business venturing refers to creating new businesses within a company and strategic renewal means “the transformation of organization through renewal of the key ideas on which they are built” (Guth & Ginsberg, 1990). Zahra (1996) went further in describing CE by adding the concept of ‘innovation’ to the two previous dimensions. Since then, many other authors have also addressed the concept of CE and expanded upon these definitions.

The research is fairly unanimous in framing CE as an essential and beneficial factor for business profitability and growth (Antoncic & Hisrich, 2001; Zahra, 1996), especially in markets that

show high degrees of dynamism, hostility and complexity (Ireland, Kuratko, & Morris, 2006). CE poses an opportunity for firms to promote and sustain their competitive advantage (Covin & Miles, 1999), leading to increased financial and non-financial performance (Ireland et al., 2006). Nevertheless, implementing CE in large, established organization requires radical change of internal organizational behavior patterns (Kuratko, et al., 1990) or corporate culture (Zahra, 1996), and researchers have expressed differing opinions about what elements need to be present in firms deemed to be 'entrepreneurial' (Covin & Miles, 1999). Entrepreneurial companies usually use innovation as a method to seek out entrepreneurial opportunities (Ireland et al., 2006) and "to redefine or rejuvenate themselves, their positions within markets and industries, or the competitive arenas in which they compete" (Covin & Miles, 1999, p. 47).

Different forms of CE also depend on management objectives surrounding how to introduce CE and the resources and capabilities of a company. A holistic view of CE links it to a firm's behavior and its ability to enhance innovation through practices and processes which support exploration and innovation (Lassen & Nielsen, 2009). The idea of new resource combinations and exploration builds upon Schumpeter's theories on innovation and entrepreneurship as the primary catalyst for paradigm shifts that represent creative destruction within an economy (Schumpeter, 1942). Product and process innovations, along with developments in markets, enable a company to create and exploit new business opportunities (Sathe, 1998) and to advance strategic renewal of established business lines (Ireland et al., 2006).

There are three most common forms of innovation. The first one is entry into a new business arena that may be related or unrelated to a firm's current products or markets is (Bierwerth, Schwens, Isidor, & Kabst, 2015). The second notion of innovation entails individuals or small groups who promote new product ideas in the corporation, also known as intrapreneurs. Establishing an entrepreneurial culture that pervades the entire organization's outlook and operations is the third most common form of innovation (Covin & Miles, 1999). Building on the work of previous authors, Antoncic and Hisrich (2001) name this first phenomenon new-business-venturing and define the term as the pursuit of related products and their introduction to the market. Intrapreneurship, for them, also supposes innovativeness. They label the entrepreneurial philosophy as a self-renewal dimension stressing the strategy reformulation, reorganization and organizational change. They also link proactiveness to the concept of CE thereby describing management's orientation towards competitiveness, initiative and risk-taking, competitive aggressiveness, and audacity (Antoncic & Hisrich, 2001). A corporate

entrepreneurship strategy is further described in the literature as a form of company self-renewal whereby firms rejuvenate operations to recognize and exploit entrepreneurial opportunities (Ireland et al., 2006).

The reasons vary why an organization might choose to establish CE. According to Ireland et al., triggers are either internal or external to an organization (Ireland et al., 2006). External triggers include diminishing opportunity streams, rapid changes in technologies, labor shortages, aggressive competitor moves, changes in the industry or market structure. These external factors can be further divided into threats and opportunities.

In order to nurture an intrapreneurial environment, factors like management support, organizational structure, resources, incentives and risk-taking (Kuratko et al., 1990), proactiveness (Stopford & Baden-Fuller, 1994) as well as enlightened investment policies and cross-functional collaboration are needed (Zahra, 1996). In addition, employees' growth should be supported, giving them opportunities to use creative skills (Zahra, 1996) and freedom to think and act outside the box (Sathe, 1998).

The degree to which an organization is risky, proactive, and innovative is taken as a measure of its CE (Ireland et al., 2006). Companies which do not exhibit CE traits need to build capabilities from the inside before they are able to innovate, which implies that the actual cost of building CE equals the cost of initiating strategic innovations (Baden-Fuller, 1995). It is suggested that improved communication, formal controls, thorough environmental scanning, common values, management and organizational support all assist a company to develop intrapreneurial traits (Antoncic & Hisrich, 2001).

This thesis focuses on corporate incubators as a particular form of CE.

2.1.1 Definition and scope of a corporate incubator

Incubation is a relatively young phenomenon within the scope of CE (Roessler & Velamuri, 2015). The first business incubator Batavia Industrial Center was set up in 1959 by Joseph Mancuso in New York (Achleitner & Engel, 2001; Seedrs, 2019). These institutions then spread throughout the United States. Early incubators had the goal of generating jobs, improving the economy in structurally weak regions, as well as facilitating technology transfer from leading

research institutions and businesses (Achleitner & Engel, 2001). Most of these ‘classic incubators’ had non-profit business models (Achleitner & Engel, 2001).

The internet-boom in the late 1990s gave rise to the so-called ‘new economy’ incubators, following for-profit models and fueled the appearance of names like accelerators, greenhouses or hatcheries (Gassmann & Becker, 2006). For-profit incubators integrate the concept of independent programs that aim to achieve profits from service fees and equity stakes of their incubates. Corporate incubators (CIs), on the other hand, promote innovation and business model innovation within a company (Roessler & Velamuri, 2015), as well as extracting value from their incubatees’ portfolio of technologies, or tapping into new technologies or business lines (Gassmann & Becker, 2006). While most of the independent for-profit incubators have shut down, incubation has increasingly gained importance for large, technology-intensive corporations (Gassmann & Becker, 2006).

Today, business or corporate incubators are an effective means for companies to generate new ideas, products and services ultimately to secure growth in the long-run (Wagner & Wosch, 2015). Although there is no standard business incubation model (OECD, 1999; Wagner & Wosch, 2015), most authors describe a CI in its most basic sense as the provision of shared office-space, business support, mentoring and access to a large network of stakeholders like investors, coaches, customers and suppliers (Allen & McCluskey, 1990; Hackett & Dilts, 2004; Heilmann, Jung, & Reichart, 2015; OECD, 1999; Roessler & Velamuri, 2015; Seedrs, 2019). In general, an incubator seeks to link technology, capital and know-how so as to leverage entrepreneurial talent and accelerate technology exploitation (Grimaldi & Grandi, 2005). The aim is to foster development of new companies and increase early-stage growth of start-ups (Allen & McCluskey, 1990; Grimaldi & Grandi, 2005; Heilmann et al., 2015). Different resources, constraints and needs influence the mission, policy, services and success of incubators (Allen & McCluskey, 1990). Start-up ideas which otherwise might not be pursued, can find a protected space within this environment (Wagner & Wosch, 2015). Individuals and small teams can work on innovative projects and ideas in a more flexible and unbureaucratic environment (Gonthier & Chirita, 2019).

The definition of a CI as understood in this thesis is based on Gassmann & Becker (2006) and focuses on internal start-ups:

Corporate incubators are specialized corporate units that hatch new businesses and enhance a corporation's technology base to support its overall development and growth. The object of their support can be external or internal start-ups or intrapreneurs with a promising business idea or technology (...). Corporate incubators realize technological options as part of an overall corporate mission and thus gain profits in the medium to long-term. Being part of a larger corporation, corporate incubators take into account long-term strategic goals and the fit with the parent corporation but are also able to leverage the parent's resources. (Gassmann & Becker, 2006, p. 20)

The orientation of CIs can be either external or internal or a mixture of both. Externally oriented incubators screen the market for start-ups with promising ideas and business models, whereas internally focused incubators will solely accept their own employee's projects. Because a CI is a strategic investment and established outside of the company's operational structure (Burgelman, 1985; Wagner & Wosch, 2015) it can operate independently from the core business (Sandström, Magnusson, & Jörnmark, 2009). Entrepreneurial employees, also called 'intrapreneurs', are encouraged to pursue internal innovation projects like new business models, disruptive product ideas or innovations that even may be in conflict with the core business of the parent or which are likely not be developed within the firm's normal operations (Schuh, Lau, Vogt, & Zimmermann, 2007). Establishing an incubator as an independent business unit suggests new resource combinations which implies a certain degree of dependence on the parent, but also offers opportunities to make use of the larger company's resources (Burgelman, 1983). Once the incubation program is finished for an incubatee, there are several possibilities on how to proceed with the new technology venture, ranging from sale, to being spun into the current core business, to creating an entirely new business unit within the organization (Gassmann & Becker, 2006).

2.1.2 Development of corporate incubators in Germany

Compared to the United States, where most of the research on CIs has been conducted (Narayanan et al., 2009), the development of these institutions in Germany has been rather slow. Incubators began in 1983 with the Berlin incubator 'Berliner Innovations- und Gründerzentrum BIG', initiated by the technical university of Berlin and supported by the Berlin senate (Heilmann et al., 2015). Only then were incubators set up for regional economic development and became an important urban development tool with more cities joining Berlin's example for creating jobs and fostering innovation and technology transfer (Heilmann et al., 2015; OECD, 1999).

Whereas CIs used to be a rare phenomenon in German corporations a decade ago (Schuh, et al., 2007), today about 90 per cent of the DAX 30 corporations have specialized programs in place to promote start-up and innovation activities (mm1, 2019). Almost 80 per cent of these programs have been established within the past five years, and more than half of them are accelerators to speed up existing product and business model ideas (mm1, 2019). Despite these programs becoming more widespread, there is little data about their success in promoting corporate innovativeness (mm1, 2019).

This thesis analyzes two German CIs that will be described in detail in chapter 4 for innovation effects.

2.2 Business strategy and the competitive advantage for a company

In its essence, business strategy is about how best to cope with the future and change, which naturally entails dealing with risk and uncertainty (Raynor, 2007). Companies today are tasked with creating and sustaining competitive advantages within fast-changing business environments, where new entrants offer new products and services, product life cycles are getting shorter and customers' expectations are increasing (Wagner & Wosch, 2015).

One of the best-known exponents of competitive advantage (CA) is Michael E. Porter who states that a firm can achieve two types of CA - either cost leadership or differentiation (Porter, 1980). This is based on his earlier work on firm's value chains and Porter's 5 forces. A firm with a CA in cost leadership has lower cost than its competitors and a firm with a CA in differentiation is able to create value and therefore claim a premium price (Porter, 1986).

Another key concept of business strategy is creating value. The ability to create value and to exploit this added value is connected with opportunity costs that firms engage in when deciding whether or not to make an investment and with the willingness-to-pay for the created value of customers. Asymmetries between firms can be exploited as a competitive advantage and therefore firms can claim value for themselves (Brandenburger & Stuart, 1996).

Richard Rumelt (1980) describes the central concern of strategy as policies, plans and objectives which define the scope of a company and how it navigates the complex competitive

environment. A competitive strategy, according to Rumelt (1980), usually relates to either superior resources, superior skills, or to a superior position.

Baden-Fuller (1995) proposes a dynamic view of competitive strategy. Compared to the neoclassical view of industry competition where firms operate in a well-known environment, in this perspective the environment is characterized by turbulences, uncertainty and changing rules. Turbulences are a result from external and internal industry factors, such as shifts in buyers' preferences and new sorts of supply arrangements, existing competitors and new entrants that alter the rules of the game by engaging in innovative activities. Strategic and continuous innovation is central to the competitive process in this view and responding to industry dynamics can constitute a competitive advantage to the firm (Baden-Fuller, 1995).

Richard Rumelt (Lovallo & Mendonca, 2007) later touches on a similar concept with his discussions of strategy dynamics. In contrast to the current mostly static concepts in use, strategy dynamics entail a company evaluating which changes will be important and which resources should be combined. A suitable strategy should therefore be responsive to change and be built upon and stretch firm's resources that generate competitive advantage. In addition, finding new ways to combine resources can potentially imply a CA and opportunities for firms to develop new technology or commercialize technologies developed by others (Guth & Ginsberg, 1990).

Michael Raynor's *'Strategy Paradox'* (2007) makes the point that "strategies with the greatest possibility of success also have the greatest possibility of failure" (Raynor, 2007, p. 1), while also saying that what most people treat as strategy, is really not strategy at all. Strategies of successful companies are quite similar to those of companies that failed. Raynor (2007) proposes a solution to the paradox in having one part of management deal with the company's core business and another pursue promising opportunities and mitigate risk. Burgelman (1983) already recognized this over three decades ago when he stated that large, diversified organizations need entrepreneurial activity both as a part of strategy diversification as well as to secure business survival. The simultaneous pursuit of mature and emerging strategies is a key component of long-term success (O'Reilly III & Tushman, 2008).

2.3 What is a (disruptive) innovation?

Promoting innovation is the common theme that serves as the building block for all designs of CE (Covin & Miles, 1999). For companies, innovation entails responding to dynamic environments to secure continuous success (Bierwerth et al., 2015). Most innovation emerges from an unexpected combination of several things (Lovallo & Mendonca, 2007) and ranges from being incremental to radical (Lassen et al., 2006).

The Austrian Economist Joseph A. Schumpeter has significantly shaped the way scholars think about innovation and entrepreneurship during most of the past century. He maintains that innovation implies a process of industrial mutation, which constantly reforms the economic structure from within by destroying the old and creating the new. Naming this ‘creative destruction’, he found this process to be central to competitive capitalism. Serious competition does not result from price differentiation, but from new technology. This goes beyond simply striking at profit margins of companies in the market but threatens their very existence (Schumpeter, 1942).

Radical innovations that provoke the process of creative destruction result in new entrants replacing incumbents (Rothaermel, 2001). Radical innovation can be described along various dimensions. In the literature on innovation, various terms such as ‘radical’, ‘break-through’, ‘non-linear’, ‘discontinuous’, ‘paradigm-shifting’ and ‘disruptive’ have been used to explain the same phenomenon of creating new possibilities for growth that replace or transform established markets (Lassen et al., 2006).

For the purpose of this thesis, we shall rely on definitions supplied by Clayton M. Christensen for technology and innovation. Technology is defined as the processes used by an organization that produce products and services of greater value by transforming capital, labor, material and information. An improvement in technology is defined as innovation (Christensen, 1997).

Disruptive innovations are a species of innovation that happen from time to time and which show specific characteristics (Christensen, 1997). Typically, products based on a new disruptive technology will be simpler, smaller, cheaper and more convenient to use (Christensen, 1997). This type of technological change creates particular consequences for a market (Danneels, 2004) and is how new products and services emerge (Ahuja & Lampert,

2001). A disruptive technology in general initially underperforms existing products in mainstream markets but introduces a new performance dimension valued by new niche customers rather than by the mainstream entire market (Christensen, 1997; Danneels, 2004; Gans, 2016). This new performance dimension changes the competition in an industry, because products previously did not compete along this dimension (Danneels, 2004). While incumbents make R&D investments to sustain the existing technology, entrants focus on improving the performance dimensions of the disruptive technology. At some point, those improvements also satisfy the requirements of the mainstream market and will consequently be adopted by a large customer base (Danneels, 2004). Thus, these technologies pose a real threat to incumbents (Gans, 2016), rendering established technologies obsolete and destroying the value of investments made (Danneels, 2004).

Richard Foster noted that most technology lifecycles exhibit an S-curve (Gans, 2016). A new technology would be displayed as a subsequent S-curve. New entrants reach a point in performance on the S-curve when they can compete with incumbents and change the game (Gans, 2016).

Ron Adner (2002) states that the correlation between consumer preferences and the consumer's willingness to pay for a product's performance improvement is the reason that motivates adoption of a disruptive technology. When performance exceeds consumers' requirements then they are less willing to pay for extra performance features. Consumers are willing to accept worse performance if the price is sufficiently low (Adner, 2002).

2.4 The innovator's dilemma according to Christensen

As described in the previous chapter, disruptive technologies can pose serious threats to incumbent companies and they typically bring about a paradigm shift in markets. There are multiple reasons why incumbents fail to adopt disruptive technologies successfully and why they are replaced by new entrants.

Listening to your customers and satisfying their needs is generally considered good strategy and what ultimately leads companies to success. Christensen's book '*The Innovator's Dilemma*', introduces a new explanation of why incumbents fail to launch disruptive innovations needed to maintain competitive advantage. Because incumbents focus on their

present value networks and create only sustaining innovations that satisfy their existing customer base, they fail to invest in disruptive innovations because these tend first to serve only unprofitable niche markets. Hence, the benefits of disruptive innovation do not immediately accrue (Rumelt, 1980) and business strategy tends to be focused on short-term performance (Guth & Ginsberg, 1990). As a consequence, the field is left open for new entrants (Ibrahim, 2016) that have less to lose, are less constrained by existing relationships, have lower cost structures and possess more incentives to focus on a small customer base and on redefining industries (Berglund & Sandström, 2017). An incumbent is thus at a disadvantage, because senior management only fosters sustaining innovation that eventually overshoots demand and its large customer base prevents disruptive innovation (Christensen, 1997). Commonly accepted principles of good management are consequently at odds with disruptive innovation (Christensen, 1997) and so what incumbents should do is to find a balance between pursuing sustaining innovations while at the same time investing in disruptive innovations with independent business units (Danneels, 2004; Ibrahim, 2016).

3 Methodology

The methodology of this thesis is a case study using qualitative data. This research strategy was chosen due to the nature of the research question and the context studied. A comparative case study allows the researcher to explore a “contemporary phenomenon in its real-life context, especially when [b] the boundaries between phenomenon and context are not clearly evident” (Yin, 1981, p. 59). The use of cases also offers the advantage of employing a multitude of sources, such as documentation, interviews and archival records (Baxter & Jack, 2008; Eisenhardt, 1989; Hancock & Algozzine, 2006). Drawing on this variety of qualitative data sources, a case study is descriptive (Hancock & Algozzine, 2006) and enables the author to explore different facets of a phenomenon to facilitate a holistic understanding of the case (Baxter & Jack, 2008).

3.1 Research design

In order to thoroughly explore the phenomenon of CIs as proposed in the research question, a comparative case study was the most appropriate method. It enables comparison within a single case as well as between cases (Baxter & Jack, 2008; Yin, 2003). For the present study, the author chose to analyze two leading German CIs -- grow platform GmbH of Robert Bosch GmbH and DB Intrapreneurs of Deutsche Bahn AG.

These companies foster ideas and projects from within driven by their own employees instead of focusing on external start-ups, and there was a wide range of material to be found on both programs. By choosing two initiatives with an internal business model, the author expected to obtain similar results across cases so as to achieve literal replication (Yin, 2003; Zach, 2006). It is essential to note that DB Intrapreneurs label themselves as a founding program and company builder, rather than as a classic incubator. In contrast to grow platform GmbH, DB Intrapreneurs is not an independent legal entity or separate business unit. The reason for still including the program in this thesis is because of the program’s structure and its focus on developing ventures from employees’ ideas, which includes an incubation phase, making it therefore suitable for analysis. The cases are described in detail in Chapter 4.

3.2 Data collection

The data was collected in two ways. First, the author relied on secondary data sources, more specifically on documents that were primarily retrieved from available sources. Those sources included the companies' websites, incubators' websites, newspaper articles, press releases, annual reports, videos and interviews in order to gain as much relevant insights as possible (Hancock & Algozzine, 2006). During the selection process of secondary data sources, the author put emphasis on only using authentic and reliable sources (Hancock & Algozzine, 2006).

Second, primary data was gathered in the form of semi-structured interviews to complement the first round of data collection. Semi-structured interviews were the most suitable way of further enhancing the author's understanding of the researched phenomenon and to gain access to inside information from the incubators. Both incubators were contacted first via email and asked for availability for an expert interview. Additionally, potential interviewees were contacted personally via LinkedIn. This proved to be more fruitful. The first interviewee was Peter Guse, founder and former CEO of the grow platform GmbH. His statements are cited as 'Guse, 2019'. The second interviewee was a manager of the DB Intrapreneurs program who preferred to remain anonymous, which is why his citations are labelled as 'Manager DB Intrapreneurs, 2019'. The interviews were both held by phone and the author obtained permission to record the interviews at the beginning of each call to prepare a transcript afterwards. The interviews lasted for about 45 minutes and were held in German. The transcripts were translated and can be found in the Appendix. An interview guideline with open ended and direct questions was developed based on different dimensions being analyzed within the case and across the two cases being studied (Hancock & Algozzine, 2006). Due to time constraints, a pre-test of the guideline was renounced. After the first interview, the guideline was adapted to optimize understanding. The guideline can also be found in the Appendix.

The period of the entire data collection went from beginning of October until beginning of December 2019. The table with all respective data sources can be found in the Appendix.

3.3 Data Analysis

Analysis of the data used several methods to gain the most comprehensive understanding possible given time and space restrictions. Drawing on the literature review and the research question, several propositions guided the data analysis (Baxter & Jack, 2008).

These were:

1. There are input factors that positively influence the successful set-up/design of a corporate incubator program such as the strategic goal and objective, the relationship and support received from management, support for employees, the attitude towards risk and uncertainty, access to resources and capabilities of the parent and the definition of success of the incubator.
2. A corporate incubator has the potential to create value for the company.
3. The industry plays an important role regarding the need for innovation.
4. Establishing an incubator involves strategic commitments by the parent company.
5. A corporate incubator is a potential solution to the strategy paradox.
6. The incubator program as well as external industry and market factors influence innovativeness, competitive advantage and ability to mitigate the innovator's dilemma.

(See complete table in Appendix, chapter 9.)

Several analytical dimensions were chosen to which the author added another few, relying on what appeared to make sense for the research question (Eisenhardt, 1989). These dimensions involved a pattern-matching process, meaning that the collected data was matched with preliminary established dimensions on corporate incubators and intrapreneurship (Zach, 2006).

The goal then was to detect similarities and differences between the cases. Results were tabulated to keep track of relevant information (Eisenhardt, 1989). This table can be found in the Appendix.

4 Case Study

This chapter is a short overview of the parent companies to understand the setting, followed by description of the respective programs established in each company.

4.1 Overview of Robert Bosch GmbH

Robert Bosch founded Bosch in 1886 in Stuttgart, Germany. It started out as a workshop for precision mechanics and electrical engineering and is a leading global supplier of technology and services today. Since its beginnings the company was characterized by innovativeness and social engagement. Today, the Bosch Group employs about 410,000 people worldwide and its sales amounted to 78.5 billion euros in 2018 (Robert Bosch GmbH, 2019).

Comprised of four business sectors -- mobility solutions, industrial technology, consumer goods and energy and building technology -- Bosch also is a leader in the field of IoT and sensor technology, focused on innovative solutions for smart cities and homes, connected mobility and connected manufacturing. The strategic goal of the Group is to offer high-end innovative solutions for a connected life in order to improve the quality of live for people around the world. Bosch aims to deliver technology 'invented for life'. As of 1964, the company is majority owned by the Robert Bosch Foundation which supports its own programs and institutions, as well as initiatives by third parties to address societal challenges (Robert Bosch GmbH, 2019).

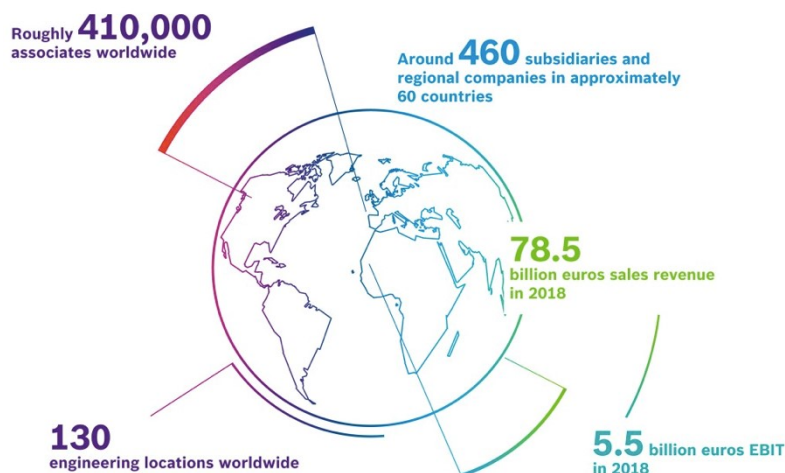


Figure 1: Bosch in Figures, source: <https://www.bosch.com/company/>

4.1.1 General description of grow platform GmbH

Grow platform GmbH is the internal incubator of the Bosch Group, based in Ludwigsburg, Germany. It emerged from the Robert Bosch Start-up GmbH, founded in December of 2013. A new 5000 m² facility for 200 people was opened on March 19th, 2018 and the name was changed to Grow Platform GmbH (Denner, 2018). Grow consolidates the different concepts and symbolizes the program's intent represented by its name. It provides a professional home for Bosch's corporate start-ups and intrapreneurs, who are able to pursue innovation in a dedicated space that encourages creativity and agility. Grow is set up as a legally independent company to enable the platform to work within its own legal framework, supporting initiatives which would not be pursued within the larger organization, while enabling access to infrastructure and the larger company's resources as well as the platform's own and shared services (grow platform GmbH, 2019).

All tenant start-ups of the incubator are employees of the Bosch Group, which also finances their initiatives. Apart from these start-ups, grow also hosts several innovation teams from the Bosch Group. Grow explicitly does not invest in external technology start-ups, as those fall under the responsibility of another subsidiary, Robert Bosch Venture Capital (grow platform GmbH, 2019).

To provoke out-of-the-box thinking and to stimulate innovation, the incubator space was designed by different architects and artists with open spaces and meeting rooms that are quirky and original. Basic tasks like administration, controlling, HR, financing and marketing are taken care of by the platform's staff, allowing the intrapreneurs to completely concentrate on developing, testing and growing their ideas. The work ethic at grow is characterized by the 'new work' paradigm which translates to flat hierarchies, freedom at an organizational and cultural level, speedy processes, joint and cross-team learning, information, interaction and inspiration (grow platform GmbH, 2019).

Applications to the incubator program need to fulfill a number of criteria. This includes a business idea with relevant customer value that is novel for Bosch, the idea must potentially develop into a scalable and sustainable business for the organization and be presented by at least two Bosch employees. After an internal selection process of the most promising ideas, selected teams receive initial support for further development of the idea, applying methods such as Design Thinking and Lean Start-up. Following this preparation phase, the teams pitch

their ideas to an advisory board where the best ideas are selected to become part of the incubation program (grow platform GmbH, 2019).

To date, around 400 business ideas have been proposed by Bosch employees. There are presently five start-ups working at grow. One example of a successful exit of the incubation program is 'Deepfield Connect', an app to monitor, analyze and optimize field data, for which a new business vertical was created within Bosch Software Innovations GmbH. Some start-ups were canned for reasons ranging from no fit with any of Bosch's business units, to strong external competitive threats or small market addressable market size (grow platform GmbH, 2019).

4.2 Overview of Deutsche Bahn AG

On the 1st of May 1994, Deutsche Bahn AG (DB) emerged from the fusion of the two previously existing public train companies -- Eastern (Reichsbahn) and Western (Bundesbahn) Germany. The DB Group is Germany's largest train and mobility provider and one of the leading mobility and logistics companies in the world, operating in more than 130 countries. The corporation is fully owned by the German State and employs about 331,600 people globally of which around 205,000 work in Germany. Sales in 2018 amounted to 44 billion euros (Deutsche Bahn AG, 2019).

Deutsche Bahn aims to integrate the operation of traffic and railway infrastructure to move people and goods smarter and more efficiently by rail. Furthermore, the company intends to foster the so-called 'strong rail' in Germany and Europe to better handle traffic challenges and promote sustainability. DB also relies on an increasing connection with different modes of transport. The main challenges of the corporation include tardiness of trains, poor customer service, the need to expand the railway network to improve availability and capacity, as well as digitalization in all areas such as rails, train stations and digital customer service, while working towards a more environmentally friendly mobility system (Deutsche Bahn AG, 2019).

4.2.1 General description of DB Intrapreneurs

In 2016 Deutsche Bahn implemented a new program in the organization, DB Intrapreneurs (Weck, 2019). It is part of a new digital business ecosystem within DB and the team forms part of the new digital business unit, reporting directly to the Group's Chief Digital Officer (Bry,

2019; Innov8rs, 2019). The program goes by various names, the most frequently used being company builder, internal incubator and founders' program. It was established to bring about digital and transformation in every division of the whole corporation (Bry, 2019).

DB seeks to achieve to major goals with this program. On the one side there is creation of new digital business models to diversify the corporation's product portfolio and on the other there's the ambition to change DB's culture in the long-term towards more entrepreneurial, agile and user-centered methods (Bry, 2019). To reach those goals, DB Intrapreneurs enables employees to create and develop their own ideas into valid digital business models.

The first option to get in touch with the program is the 'Engage Phase'. This entails workshops about new working and thinking methods and development of first solutions to possible problems. Participation is voluntary and no prerequisite when applying for further stages of the program. Those workshops are mainly directed towards spreading an entrepreneurial mindset and overall openness towards new ways of working within the organization (DB Intrapreneurs, 2019).

All employees of DB can apply to the program, regardless of position in the company. Two different tracks are offered. For individuals there is the intrapreneurship track, and for business units there is the company building track. Intrapreneurs are encouraged to apply for 'batches' that start twice per year, whereas business units are not bound to timely constraints. The kind of support that a team receives also varies with the type of track followed. Intrapreneurs will receive the help of a 'venture architect' who is in charge of leading the way by facilitating and managing the project and challenging the intrapreneurs' ideas. This team member of DB Intrapreneurs also coaches the intrapreneurs in areas like "Design Thinking, Lean Start-up, Scrum, Value Proposition Design, Business Modelling and Product Management" (Bry, 2019). In contrast, when co-creating with a business unit, the role of the DB Intrapreneurs team member becomes that of project lead, taking charge of everything that happens with the new venture.

DB Intrapreneurs has developed its own approach to create successful new ventures -- a three-phase innovation process, comprised of the 'Design', 'Build' and 'Grow Phase'. For the application to the Design Phase, teams are required to consist of at least two employees who have identified a relevant problem with a prospective solution. This phase entails three one-day

workshops over a timeframe of 3.5 months. The objective in the Design Phase is to validate the identified problem and perform tests in order to develop the first concept of a business model. Employees continue to work in their regular jobs. The phase concludes with a pitch training and a final pitch event, where each team presents their business model in front of a jury of experts in respective fields, potential investors and representatives of different business units. The most promising ideas then move on to the Build Phase, which lasts for three to four months. The intrapreneurs can work full-time on their ideas in the co-working space DB DigitalBase in Berlin (DB Intrapreneurs, 2019).

The challenge of this phase is to validate the product and business with a proof of concept, developing a minimal viable product (MVP), testing the market-fit and coming up with a go-to-market strategy. On the demo day at the end of this phase, decision makers from the corporation select ideas showing the most potential to obtain further support, a possible spin-out and entry to the final phase, the Grow Phase. This is the final, open-ended phase, where intrapreneurs follow individual paths of upscaling their start-up, either within the corporation, such as within a business unit or a newly established subsidiary, or outside of DB. In the latter case, a minority stake is kept by DB's venture capital branch (Bry, 2019; DB Intrapreneurs, 2019).

An example of a successful spin-out company is 'weColli' who developed a platform for last-mile inner-city logistics using electric load-bicycles. It now forms part of DB's smart cities initiative (DB Intrapreneurs, 2019).

5 Findings

Following the case study research methodology of Robert K. Yin (1981), the findings of this case study were first reported as a summary of the individual cases and consequently as a short cross-case analysis of propositions raised. As suggested by several authors, evidence was inserted in a table of categories applying pattern-matching methodology (Hancock & Algozzine, 2006; Zach, 2006). This process aimed to identify similar concepts supporting the claims made in the propositions and to detect differences (Hancock & Algozzine, 2006).

5.1 Within-case analysis grow platform GmbH

The overall strategic goal of establishing the incubator for the Bosch Group is to “develop new, sustainable and profitable business for Bosch in new markets – based on Bosch technology” (grow platform GmbH, 2019; Guse, 2019; Obergassner, 2018; Robert Bosch GmbH, 2019; Robert Bosch GmbH Press, 2019; Tantschinez, 2018). Guse explained that with two other colleagues, he was delegated the task “to find a systematic approach on how to explore or incubate new business” (Guse, 2019). This mission is reinforced by the aim of establishing an entrepreneurial spirit and start-up culture throughout the company and to thinking afresh about how things are done (Hank & Meck, 2015; Tantschinez, 2018). As Dr. Volkmar Denner, chairman of the board, puts it: “I want us to always dare something new” (Hank & Meck, 2015). Grow provides the means for Bosch to implement and scale new ideas into products and services that are brought to market in a fast and agile manner as if they were ‘real’ start-ups (Hank & Meck, 2015; Tantschinez, 2018).

Management support for innovation and for grow is received directly from the executive board. Dr. Denner claims that Bosch employees have already proven that they can effectively build start-ups, if led differently and given the necessary freedom and tools, and strongly believes in the power of their own ranks (Hank & Meck, 2015). Bosch’s efforts to promote this new culture has meant dismantling hierarchies, removing individual bonus payments, and taking common directives out of service (Robert Bosch GmbH Press, 2019).

Employees are supported in different ways. Part of the program is ‘Experience’, a format where all employees can learn about start-ups and how they are created and scaled (European

Business, 2019). Tenants of the incubator are not only supported spatially. The incubator team is also a critical partner regarding all aspects of successful business development, from finances to personnel support, creation of the business plan to legal issues and marketing (Tantschinez, 2018). The concept of ‘new work’ thereby serves as the main enabler for setting excellent working conditions (grow platform GmbH, 2019). Support also stems from the Group, as intrapreneurs act like real entrepreneurs, but enjoy the security and comfort of the corporation at the same time (Hank & Meck, 2015; Obergassner, 2018).

Being a wholly owned subsidiary of Bosch, grow has its own legal framework. Different metrics are used than those of the core business to assess new businesses and to uncover general corporate aversion to risk and uncertainty (Bry, 2018). As a consequence, grow is able put its focus on rising opportunities and possibilities (European Business, 2019). Guse explains:

[A separate legal entity] also allows for better control within the Group and a better assessment of the risks that arise. (...) Grow has a fixed budget, which should not be exceeded. This limits the impact on the Group. And in an amount that is relatively subordinate to the entire Group. (...) Even in case of a total loss the overall impact is bearable for the corporation. (Guse, 2019)

To further minimize risk, grow has additional mechanisms in place:

These are (...) milestone-related controls of the individual teams or the individual topics. They practically always work from milestone to milestone and these are periods of less than a year, rather only 3-6 months. And further funding will only be released when certain milestones have been reached and proven to be successful. (...) There is typically little direct hiring, but the teams work very heavily with external resources, they buy services. Development for example, programming is bought. (Guse, 2019)

The incubator also provides extensive access to Bosch resources and competences for start-up teams (Robert Bosch GmbH, 2019). Grow is perceived as the linking element between the larger Group and its business units, the start-ups and a network of external partners like entrepreneurs, experts and scientists (grow platform GmbH, 2019). Besides that, Bosch provides the start-ups with tangible resources like the incubator facilities and intangible resources like funding and business support (Bry, 2018; European Business, 2019; grow platform GmbH, 2019). Guse describes:

[Resources] which are not business related, such as IP expertise, IP protection, patenting, corporate law, contract design, a little bit of buying if it fits, purchasing conditions, human resource management, classic accounting, all these things can usually be outsourced to the large corporation. (...) If I can do this internally (inside the Group, not necessarily inside grow), I have a high-quality performance at this point without a drain of know-how. (Guse, 2019)

Those factors have a major influence on the success of the incubator. For grow, success entails reaching strategic goals -- bringing new products and services to market via the start-up way process (Tantschinez, 2018). This implies that a start-up is transferred back into the Bosch Group for scaling, either by finding a place in an existing business unit or by creating a new one (Bry, 2018). A great example for this is 'Deepfield Connect', a platform for field data analysis, which found a place within Bosch Software Innovations GmbH (Robert Bosch GmbH, 2019). Another possibility for an exit is to receive funding from an external investor if no sufficient strategic alignment can be found within the Group (Robert Bosch GmbH, 2019).

Those are exactly the gradations [of success]. (...) First stage, I generate new business for the parent company, and therefore generate revenue and earnings. Second stage, I use the results that I have had, even if there is no long-term business for the parent company. Nevertheless, I use what I created, the IP, and sell it externally. And third stage would be, I just avoid further expenses in the parent company, because the business model is not valid. (Guse, 2019)

Grow has also proven that it is able to create real value for Bosch, having sold a start-up 'urbanmates' for example in 2016 (Bry, 2018; Guse, 2019). Other than that, employees have come up with more than 400 business ideas in total, which were not all continued in the incubator for various reasons, but which clearly demonstrates an entrepreneurial spirit residing in the firm culture worth fostering (grow platform GmbH, 2019).

In order to secure a leading position in the industry, Bosch is aware that it has to cooperate with various actors like academic institutions, partners and suppliers as well as to monitor competition including start-ups (European Business, 2019). Thus, grow has expanded its network to other large corporations, maintaining a lively exchange and a culture of openness (Stifterverband, 2018). Guse praises the increased willingness for idea exchange and cooperation between the different institutions (Stifterverband, 2018). Regarding the innovativeness in an industry he declares:

That [need for innovation] also depends on your current company's position. One could imagine that there are companies that do not need that because at the moment they are highly profitable in their core business and also very innovative, that's just in their corporate culture. (...) If we have an old big company with mature business, then we need something like that [innovation]. (Guse, 2019)

Taking a look at the strategic commitments made by the parent, one of the things to highlight is financial commitment, such as the sum of around three million euros for the new premises in Ludwigsburg (Oberwassner, 2018; Tantschinez, 2018). In addition, Bosch finances its start-ups

throughout the preparation, incubation and scaling phases (grow platform GmbH, 2019).

According to Guse (2019), main strategic commitments are:

In my opinion the first most important thing is that you make a decision at the top management level in the company and you always emphasize and affirm this. (...) Then comes the topic of budget, so a stable, reasonably predictable budget over several years (...). And then things like access to corporate resources. I'm sure if you completely isolate such an incubator (...), then it will not be able to compete against the free-funded start-ups in the open market because those are still a tad quicker and still have less to consider. (...) And then this release of corporate policies and rules. Certainly not of all, but of those that strongly influence speed. That would be the four topics I would say require strategic commitment. (Guse, 2019)

Following Raynor's proposed solution of the strategy paradox, grow supposes a good approach. They do not have to deal with the challenges of core business, where strict rules and processes are in place to perform with efficiency and high quality (Stifterverband, 2018). There is serious responsibility to deploy the money made in core business to secure tomorrow's jobs (Stifterverband, 2018).

That's this duality of exploration and exploitation. (...) For a more or less robust company strategy, we need both, we have an efficient, quality-oriented management in the core business, but really detached from it, with another organization, with other people, this exploration of new business areas, where we also accept a lower success rate. (Guse, 2019)

Dr. Denner proposes a connection between Bosch's future competitive advantage and its culture of innovation (Robert Bosch GmbH Press, 2019). Because the incubator is part of the culture, at the very least there is an indirect spillover linkage between grow's activities and competitive advantage for the firm. According to Guse (2019), there are several aspects to consider:

As I said earlier, the whole thing is a very long-term story, so there is no immediate effect there. But of course, opening up new business fields is always a competitive factor. But at least two others have to be added. One is the external effect to the brand, thus the obvious proof of the ability to innovate (...). Let's just say, I can tell everyone, we have an incubator, period. Then I'll be perceived as more innovative per se than others who do not. (...) And now this brand effect, which leads back to two things (...). It is attractive again for customers, who say, alright, they do that, then I have a certain amount of confidence. And the other, new employees. This way I create a certain attractiveness for new employees. These are two effects that are extremely difficult to measure, but certainly exist. And above all, they appear earlier than the pure economic success of new businesses. (Guse, 2019)

Grow claims to provide a home for radical innovations (grow platform GmbH, 2019). The incubator setting, the necessary corporate freedom, and the ability to use speed as an enabler for development all aim to promote innovative and radical ideas (Bry, 2018; grow platform

GmbH, 2019; Robert Bosch GmbH, 2019; Stifterverband, 2018). The Group's structure with the Robert Bosch foundation holding a 92 percent majority (Robert Bosch GmbH, 2019) also plays a role for promoting autonomous risk-taking with no shareholder concerns about increasing short-term gains. Bosch can, therefore, commit itself to pursuing strategies which might only pay off in the medium to long-term (Seiwert, 2008). Regarding disruptive innovation, Guse (2019) explains the innovator's dilemma as follows:

Disruptive innovation in a corporation brings with it a whole lot of other problems. We also have to take a second step back for definition. When I say disruption, I can either say I disrupt the business model of others. And I'd say that's okay, we can do that with grow, we have done that with grow. But when I disrupt my own business models - and that's what we've ruled out - I'm in a conflict of channels or even brands. So, if I address my existing customers out of the same Group - who get a certain function out of the core business and pay for it - with a disruptively different function, perhaps with a different corporate brand, then I will have huge conflicts in the company. That's why we excluded that at the time. (Guse, 2019)

Grow potentially serves as part of an answer to the innovator's dilemma for Bosch. Because the company itself is highly specialized, its structures somewhat impede the necessary speed and agility for rapidly introducing radical innovation in new markets. The incubator poses a capable solution to engage in a more start-up-like 'island'-world within the Group (European Business, 2019; grow platform GmbH, 2019; Niebuhr, 2018).

5.2 Within-case analysis DB Intrapreneurs

The main points to highlight when examining the strategic goals of DB Intrapreneurs is their focus on empowering employees and developing new digital business models for the parent company (Bry, 2019; DB Intrapreneurs, 2019; Deutsche Bahn AG, 2019; Linder, 2019). In the words of a former venture architect of the DB Intrapreneurs team:

We have two clear goals: Creating new digital business models which generate new revenues with DB-external companies and thus diversifying DB's product portfolio. Enabling employees in user-centered and agile methodologies as well as entrepreneurship and thus fostering long-term cultural change. (Bry, 2019)

This twofold approach demonstrates the intention of DB not only to venture into new areas of tomorrow's digital business, but to transform the company from within (Linder, 2019). The company has "a lot of employees and therefore a lot of innovation potential in its own ranks" (Manager DB Intrapreneurs 2019). By empowering this workforce through training in entrepreneurial methods and support from a highly skilled team, DB hopes to promote

innovation from within and for the whole organization (DB Intrapreneurs, 2019; Deutsche Bahn AG, 2019).

For programs like DB Intrapreneurs to become a success and for teams to be effective, support and legitimacy from side of the management is essential (DB Intrapreneurs, 2019; Linder, 2019). With DB's director of HR and legal, Martin Seiler, as patron of the program, senior management support is guaranteed (DB Intrapreneurs, 2019; Linder, 2019). In addition, middle managers appreciate the programs' efforts and share the opinion that every manager should see herself responsible for creating an environment within the team that encourages the development of great ideas (DB Intrapreneurs, 2019). The organizational structure plays another important role. DB Intrapreneurs directly reports to the Chief Digital Officer and is part of the business unit new digital business, as well as being internally promoted as an extensive training opportunity (Bry, 2019). Having management fully on board is also essential as employees, moving on to the Build Phase, need authorization for the four-month internship in Berlin that frees them from their daily work duties (DB Intrapreneurs, 2019).

Support for employees starts with fostering the entrepreneurial spirit within the whole organization (DB Intrapreneurs, 2019).

There are always people who have come to us who have said that we would like to participate but have no idea yet. And we try to reflect this in workshops before the program, (...) to inspire them on the one hand, to enable them on the other. Even before they work on the actual idea. (Manager DB Intrapreneurs 2019)

Once part of the program, a team or business unit receives more professional and extensive help, such as guidance from a venture architect or a workplace in the co-working space DigitalBase in Berlin (Bry, 2019).

Deutsche Bahn also has in place an early-warning system which focuses on assessing opportunities and risks. The Management Board and the Supervisory Board of DB AG receive respective reports three times per year where all business opportunities and risks, apart from acquisitions or sudden risks taking place outside the reporting cycle, are described (Deutsche Bahn AG, 2019). There is thus transparency with respect to the risks and opportunities that lie within the intrapreneurship program. Failure of a project is also seen as positive, at least when it happens early on in the process, and this constitutes a valuable learning experience for the team and the organization (Bry, 2019). A manager of the program adds:

We just try to be iterative. This means that entrepreneurs or intrapreneurs are not necessarily super risk-aware, but rather moderate in their willingness to take risks. And through iterative, agile, user-centered work, (...) experimental learning, we simply try to cut elephants into slices and break down complexity and accordingly minimize risk.
(Manager DB Intrapreneurs 2019)

DB Intrapreneurs and the parent company provide the respective teams with various resources. Among these are workshops, an intrapreneur-community, and access to a network which is tailored to the needs of the respective teams (DB Intrapreneurs, 2019; Deutsche Bahn AG, 2019; Linder, 2019; Manager DB Intrapreneurs 2019). The Build Phase of the program also warrants further mention. Here, teams benefit from financing by the organization, they are released from daily work for four months, and they are provided with an engaging working environment in the co-working space, DigitalBase in Berlin (Bry, 2019; DB Intrapreneurs, 2019; Manager DB Intrapreneurs 2019; Weck, 2019).

Regarding how success is defined for the incubator, reaching the above-mentioned goals represents a positive outcome. Besides that, the goals are also achieved each time a start-up concludes the three phases with an exit (Bry, 2019). Exits can happen in three different ways: Either, a start-up is implemented and scaled-up in an especially created business unit, DB founds a fully owned subsidiary where the intrapreneurs assume managing positions, or the start-up is spun-out as an independent company and the venture capital branch DB Digital Ventures invests as only a minority stakeholder (Bry, 2019; Deutsche Bahn AG, 2019; Innov8rs, 2017). Additionally, employee empowerment is a target variable (Manager DB Intrapreneurs 2019). Proof for the program's success can already be seen today. Over the past two and a half years, more than 130 employee ideas were incorporated into the program, more than 200 employees participated actively, and the employees came from over 20 different business units (Linder, 2019).

By fostering an entrepreneurial spirit in the corporation and introducing new methods of thinking and acting to enhance cultural change, DB Intrapreneurs creates value for the entire organization. Spill-over effects are created by people experiencing new working methods, user-centric work habits, digital competences and by taking back elements into their everyday work lives (Manager DB Intrapreneurs 2019). Furthermore, value is added through increasing the diversification of the company's portfolio with previously untapped revenue streams and new digital business models (Bry, 2019).

The need for innovation in the mobility and logistics sector is high and new entrants frequently appear in the market, offering a wide range of services often based, for example, on electric vehicles (t3n, 2017). As a large and mature company whose business model used to be quite straightforward, DB now confronts the challenge of transitioning into the digital age (DB Intrapreneurs, 2019). A manager of the DB program declares that transformation is happening in all industries nowadays and that no incumbent can consider itself safe, something that not only applies to DB (Manager DB Intrapreneurs 2019). He mentions:

What we know in general (...) - and we understand this quite well from the example of mobility - is that digital possibilities, or digitalization, allow players to 'attack' players like Deutsche Bahn without using large resources or large asset stocks. (Manager DB Intrapreneurs 2019)

Regarding types of innovation suitable for the industry, the digitalization of tracks, called 'digital rail', is a project to highlight (Deutsche Bahn AG, 2019).

DB has made several strategic commitments to enhance the likelihood of DB Intrapreneurs being a success. This includes full legitimacy and support by top-management, releasing intrapreneurs from their daily duties so they can spend time working and developing their ideas during the Build Phase, providing an inspiring working environment in different innovation hubs, and primarily the potential investment into the start-up by DB Digital Ventures (Deutsche Bahn AG, 2019; Innov8rs, 2017; Manager DB Intrapreneurs 2019; Weck, 2019). Another important aspect to mention is the way the program is treated as a start-up:

We ourselves always learn. (...) We have a goal and a vision of driving new business and empowering employees, but at the same time we also keep questioning ourselves, that is to say, what the user himself wants, so we ourselves are user-centered, and I believe that is a very great commitment that we said we want to really live that ourselves too. (Manager DB Intrapreneurs 2019)

As part of the new digital business division, the program primarily deals with exploring new digital business models (Bry, 2019). Therefore, one could argue that it is somewhat part of a solution to the strategy paradox, in its focus not on corporate, but rather on competitive strategy. But because the program is not a detached unit and ties to corporate processes and regulations are still present, its potential to work independently of the core business may be lessened. Still, as Martin Seiler claims, DB Intrapreneurs offers the opportunity of a good mixture of bright ideas and the corporation on the other side (DB Intrapreneurs, 2019).

Competitive advantage in terms of contribution to revenue is very hard to measure for a program this recently established and still small, according to a manager of the program (Manager DB Intrapreneurs 2019). He argues nevertheless that the program definitely benefits competitive advantage. This does not necessarily have to be based only on innovation, but rather concerns bringing about positive effects within the organization:

I think it's good for a company like DB when we say (...) we do that. We now have a trainee program parallel to the intrapreneurship program, a digital trainee program, which also pays off in terms of employer branding, which also attracts talent. Accordingly, I believe that it has an influence on competition, competitiveness and possibly also competitive advantages. (Manager DB Intrapreneurs 2019)

DB Intrapreneurs aims to transform the Group into a more innovative company (Linder, 2019). The program encourages all employees to get training in new approaches and agile methods and certainly enhances the Group's attitude towards change and innovation. DB introduced a whole new ecosystem around digitalization and innovation and the intrapreneurship program is part of it (Innov8rs, 2017). As for the type of innovation, the program does not systematically aim for incremental innovation, but neither does it excludes this (Manager DB Intrapreneurs 2019). Their approach is not to think incremental versus disruptive innovation, but whether something has a business model character. It is also not relevant, if something is just a new feature or a new product (Manager DB Intrapreneurs 2019). A separate business unit called 'new horizons' takes care of disruptive topics such as air taxis and hyperloop (Manager DB Intrapreneurs 2019).

Seeing positive results from the program, leadership at DB actively fosters and promotes intrapreneurship in the company. Exploring new growth areas to mitigate disruption by competitors is indeed possible with CE (Innov8rs, 2017). As a consequence, the innovator's dilemma seems to be decreasing for DB as they aim to revamp their processes and methods by utilizing new technologies (Kreimeier, 2018). This was confirmed in the interview:

[It is becoming] more irrelevant. (...) I would say not 0 or 1, but it successively goes into reducing this. (...) We really decidedly care about the topic market and customer problem. This means that you don't have to submit an idea to us, but a challenge that you want to address. Accordingly, I believe that this is a way of helping to minimize these innovator's dilemmas, to reduce the risk by focusing very strongly on the market and ideally also by having cross-departmental teams. (Manager DB Intrapreneurs 2019)

He notes that an innovator's dilemma exists for individual units rather than for the Group as a whole (Manager DB Intrapreneurs 2019).

5.3 Cross-case analysis

Short cross-case analysis was performed to draw parallels between the results (Miles, Huberman, & Saldaña, 2013; Yin, 1981).

Comparing the two cases, there are several things to highlight. One of the main differences between grow and DB Intrapreneurs is in their approaches towards intrapreneurship. While both have the intention to create new business for their parent companies, DB Intrapreneurs also actively pursues the mission to foster real cultural change and transformation within the organization. Grow aims to spread the entrepreneurial mindset in the Group, but their efforts are less pronounced.

Input factors are largely comparable across the two cases. One distinguishing aspect to mention is the set-up of the programs. As an independent legal entity, grow can act more freely and is less constrained by the core business, while DB Intrapreneurs, although enjoying relative freedom, are part of some business unit. This influences attitudes towards risk and uncertainty and the way corporate resources can be accessed. This confirms Proposition 1 – that there are input factors that positively influence the successful set-up/design of a corporate incubator program such as the strategic goal and objective, the relationship and support received from management, support for employees, the attitude towards risk and uncertainty, access to resources and capabilities of the parent and the definition of success of the incubator.

Grow and DB Intrapreneurs are both able to generate value for their parent companies by creating new businesses and spill-over effects for the rest of the organization. One can argue that Proposition 2 appears to hold true – That a corporate incubator has the potential to create value for the company.

There is divergence concerning Proposition 3 – that the industry plays an important role regarding the need for innovation. Both industries' in which the companies operate have respective needs for innovation. While Bosch's R&D department is dealing with state-of-the-art technologies like quantum computing, DB as a state-owned company, is predominantly focused on transitioning the organization into the digital age. Nevertheless, DB also has a special business unit, new horizons, taking charge of potential future topics. The understanding

is that innovation is needed in every industry (Manager DB Intrapreneurs, 2019), while Guse argues that if a company is already innovative, it has an innovative culture and is well positioned so the need for further CE initiatives is less pronounced (Guse, 2019).

Both parent companies have engaged in substantive strategic commitments for the success of the respective incubator programs and all in all are comparable. Consequently, Proposition 4 holds true – that establishing an incubator involves strategic commitments by the parent company.

A corporate incubator is a potential solution for Raynor's strategy paradox as suggested in Proposition 5 – that a corporate incubator is a potential solution to the strategy paradox. In the case of grow, the explicit mission is to explore promising business opportunities in new markets. At DB this is less so and the focus is more on exploring new digital business models for the core business.

One general finding relating to Proposition 6 – that the incubator program as well as external industry and market factors influence innovativeness, competitive advantage and ability to mitigate the innovator's dilemma – was that both incubators are clearly driving innovation within their parent companies and are able to enhance innovativeness. Compared to other vehicles in the companies' innovation landscapes, the direct effect on competitive advantage for the whole organization is difficult to measure and needs time to materialize. Most important are spillover effects not only for employees and potential employees, but also for customers.

The innovativeness contributes to competitiveness. As for the mitigation of the innovator's dilemma, it is important to mention that disruptive innovation is not seen as necessarily desirable for incumbent firms, primarily out of fear of cannibalizing core businesses that sustain the companies' position in the market. Grow explicitly chooses not to push for disruption, as it might pose threats for its current business lines. DB Intrapreneurs holds the position that the incubator contributes to mitigating the innovator's dilemma somewhat gradually.

6 Discussion

The findings of this study suggest that corporate incubator programs are an effective means for mature companies to foster innovation and contribute, to some degree, to the parent company's competitiveness. However, it cannot be concluded that corporate incubators, in their present iterations as seen in the two companies examined, possess the capability to solve for the innovator's dilemma. They do constitute a possibility for its gradual mitigation nevertheless.

Both incubator programs have clearly set strategic objectives to create new businesses, spread the entrepreneurial mindset, and to empower employees. This is in line with the argument of Wagner and Wosch (2015) that a clear, strategic objective and strategy is needed for a successful incubator operation.

Support from top management for the incubator reinforces findings by Deloitte (2019), Kuratko et al. (1990), Roessler and Velamuri (2015) and Sathe (1998) that successful CE can only be accomplished within an organization with a different approach to 'Management 101' and ongoing legitimacy supplied by senior management. Furthermore, employees joining an incubator program require a different kind of support system and greater degrees of freedom in their thinking and latitude for action than in the core business (Ireland et al., 2006; Sathe, 1998; Zahra, 1996). Grow and DB Intrapreneurs both acknowledge and reflect this in the strategic and operational aspects of how their incubator programs are managed.

The data demonstrates that dealing with entrepreneurial action entails high degrees of uncertainty regarding payoffs (Sathe, 1998). However, there is also an imperative to focus on opportunities created by uncertainty (Raynor, 2007). Grow's systematic processes are a sophisticated approach to start-up incubation. DB Intrapreneurs' mechanisms within a business unit are perhaps effective to a lesser degree.

The results further indicate that access to tangible and intangible corporate resources and capabilities are a key element for a successful incubator program. This confirms the results of previous studies by Allen and McCluskey (1990), Burgelman (1983), Gassmann and Becker (2006), Kuratko et al. (1990) and Wagner and Wosch (2015).

The data largely accord with existing theory that CIs provide a mechanism for developing new businesses with products and services that ultimately secure long-term growth (Bierwerth et al., 2015; Gassmann & Becker, 2006; Roessler & Velamuri, 2015; Wagner & Wosch, 2015). Employee empowerment through CE and therefore knowledge and capability building follow the theoretical claims of Gassmann and Becker (2006) and Gonthier and Chirita (2019).

The analysis of both CI programs further demonstrates how value was created for the parent company. But since new ventures take 5-8 years before contributing to corporate profits, monetary contributions had yet to accrue (Bierwerth et al., 2015; Guse, 2019; Guth & Ginsberg, 1990). Nevertheless, there were other forms of value such as an enhanced reputation that had spill-over effects to the entire company, possibly yielding a competitive advantage over peers. CIs also are a strategic value-add as articulated by Brandenburger and Stuart (1996) that create asymmetries between firms which can be exploited.

Both companies are aware of the competitive threat and the disruptions caused by external competitive dynamics (Baden-Fuller, 1995). New entrants are able to compete directly with incumbents with new digital business models and relatively few assets. The statement, “I don’t think there is a safe industry there for now” (Manager DB Intrapreneurs, 2019) reveals this understanding.

As proposed by Michael Raynor (2007) in the *‘Strategy Paradox’*, companies commit to strategies today, engaging with uncertainty about whether these commitments will turn out to be fruitful. Both companies had to deploy strategic commitments to establish their CI programs. This reflects willingness to take on start-up risks on the part of the parent company. This risk-taking also has potentially large payoffs (Raynor, 2007). Consequently, the incubator programs represent a possible solution to the strategy paradox. In both cases, a priority of top management is to maintain the ongoing success of core business operations. At the same time, the CI programs are tasked with exploring and developing promising new opportunities and alternative business lines for the parent.

The results of this thesis reinforce the notion made by previous authors that CI programs, as a form of CE, enhance a firm’s organizational learning, promote innovativeness, and foster an entrepreneurial mindset for employees (Gonthier & Chirita, 2019; Narayanan et al., 2009). Following Roessler and Velamuri (2015), the incubator programs in the present study aim to

overcome inherent difficulties of business model innovation by promulgating corporate entrepreneurship and strengthening the reputation and business cultures of incumbent firms. This project is highly beneficial for the parent company. As Rumelt (2007) proposes, reputation counts as a difficult-to-replicate and intangible resource that contributes to a firm's success.

In addition, the findings of this study expand upon the work of Gonthier and Chirita (2019) by aiming to explain how CI enables a company to mitigate the innovator's dilemma. It is evident that operating a CI alone does not prevent disruption, but it is a mitigating factor. Both companies actively listen to their customers, study their markets, and act accordingly to satisfy market needs. Both companies are responsive to their current customers while also attacking customer problems and solving them iteratively with new (digital) business models, even in new markets. This path of pursuing ambidexterity can mitigate the innovator's dilemma (O'Reilly III & Tushman, 2008). Yet, one also has to take into account the idiosyncratic characteristics of incumbents which may lead to very distinct solutions to the innovator's dilemma (Sandström et al., 2009).

This thesis also confirms that incumbents find it harder to stay innovative than new entrants and tend to refrain from introducing disruptive innovations for rational reasons (Berglund & Sandström, 2017; Igami, 2017). Fear of cannibalization their own products and services were the strongest arguments against commercializing disruptive innovations, even if the incubator programs had the capacity and necessary resources to create disruption (Ahuja & Lampert, 2001; Igami, 2017). Nevertheless, both companies have strong competitive positions in their respective markets and as previous authors mention, this can cause new ways of resource combination that are innovative (Danneels, 2004; Guth & Ginsberg, 1990; Stopford & Baden-Fuller, 1994).

Since start-ups coming out of a CI take a long time to become economically viable, why do companies establish incubators or some equivalent? As Peter Senge (1990) notes in his book *'The Fifth Discipline'*, sometimes the results are worse when money is invested in some new strategy and it would have been more effective to do nothing. Most company resources are deployed in classic R&D departments, so are corporate incubators more of a cosmetic tool? But we do know that innovations that are more futuristic and disruptive are developed in separate units, like the new horizon unit at DB. A CI is able to speed up processes and bring products and services to market a lot faster than development within the core business, which contributes

to the reason-for-being of CIs. The results here demonstrate that CIs equip the parent with enhanced innovativeness that is hard to measure, but definitely causes competitive advantage over firms who do not operate an incubator program.

Certain limitations of this study must be acknowledged. The findings are limited to the two cases analyzed. Although, representative examples for internal CI programs in different major industries, this does not imply that present findings would apply across the board to all CIs. Further, most existing literature and theory about CE and intrapreneurship have their basis in North America, which obviously might display different dynamics than studies in a different cultural setting (Antoncic & Hisrich, 2001; Narayanan et al., 2009).

This study provides a starting point for further research on internal and external effects of CIs, namely how firms can use them to their advantage for employee engagement as well as talent acquisition. Additionally, further research should take into account different cultural settings and whether a cross-cultural study would reveal different outcomes. Another interesting subject to study is how corporate risk-aversion changes once intrapreneurship has been established in an organization. Intrapreneurship within midsize and smaller companies would also be a fruitful comparative domain of study. One envisages that operating an incubator in SMEs is riskier due to fewer available resources but potentially could also achieve higher payoffs for the firm.

7 Conclusion

This study examined whether corporate incubators and intrapreneurship promote (disruptive) innovation and competitive advantage to mitigate the innovator's dilemma. A comparative case study was employed analyzing two representative internal incubator programs in German corporations. The data analysis clearly showed that the CIs enhanced the companies' innovativeness. Disruptive innovations specifically, however, were not the natural outcome of the CI programs. Besides this, in the long-term CIs contribute to the competitive advantage of the parent, developing new business opportunities and in the short-term there is creation of intangible resources such as cultural transformation and reputational enhancements for the parent. Although hard to measure, the mere existence of a corporate incubator appears to have a spill-over effect into the whole organization, enabling a more innovative and entrepreneurial culture. As for the mitigation of the innovator's dilemma, CI programs seem capable of diminishing start-up threats gradually and represent a complementary option for firms to brace themselves against disruption. The present study adds to the diverse literature body on corporate incubators and intrapreneurship by linking the CI concept to aspects of innovation and business strategy. Additionally, it strengthens existing theory surrounding the implications of operating CI programs and provides insights from two examples in the German market.

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9 Appendix

9.1 Data sources for incubator analysis

Data source	Type of source
Nicolas Bry: A deep dive in Bosch startups platform grow	Interview on website
grow platform	Website - Homepage
Corina Niebuhr: Radikaler Innovation eine Heimat geben	Article in journal
Christine Tantschinez: Neue Heimat für Querdenker in Ludwigsburg	Article in local newspaper
Rainer Hanck and Georg Merck: Geld wirkt demotivierend	Interview in newspaper
Robert Bosch	Website and press releases
European Business: We don't look for hype which is perhaps profitable in the short term	Interview on website
Philipp Obergassner: Eine Spielwiese für Innovation	Article in newspaper
Stifterverband: Peter Guse – Radikaler Innovation eine Heimat geben	Interview on YouTube
DB Intrapreneurs	Website - Homepage
Nicolas Bry: Intrapreneurship is for employees and business units at Deutsche Bahn	Interview on website
Deutsche Bahn	Website - Homepage
Andreas Weck: Wie die Innovation von innen gelingt	Article in journal
Innov8rs: Intrapreneurship in action: BASF, Deutsche Bahn and BNP Paribas	Article and video on website
Deutsche Bahn	2018 integrated report
DB Intrapreneurs	LinkedIn Profile
DB Intrapreneurs: Interview with Martin Seiler	YouTube Profile
T3n: Deutsche Bahn: Wir sollten nicht versuchen, das Silicon Valley nachzubauen	Article on website
Nils Kreimeier: Deutsche Bahn will nicht Facebook sein	Interview in journal
Sarah Linder: DB Intrapreneurs – Unternehmertum im Konzern	Podcast 'Einfachbahn – Impulse'

9.2 Data analysis table – proposition and concept development

Within-case dimensions of analysis		
Proposition	Concepts from literature and author's framework	Literature
The following 'input' factors positively influence the successful design/set-up of a corporate incubator program: strategic goal and objective, relationship and support received from management, attitude towards risk and uncertainty, access to resources and capabilities of the parent and definition of success of the incubator.	Strategic goal of establishing a corporate incubator (reason/purpose for establishment, intention – exploration/exploitation, medium-/long-term orientation)	Allen & McCluskey, 1990, p. 61; Grimaldi & Grandi, 2005, p. 111; Heilmann, Jung, & Reichart, 2015, p. 18 → foster the development of new companies and increase the risky early-stage growth of its tenants Gassmann & Becker, 2006, p. 20 → support its overall development and growth, part of an overall corporate mission Wagner & Wosch, 2015 → corporate incubator needs a strategy, a clear organizational setup and an operating model
	Management approach, relationship & support	Deloitte, 2019 → Intrapreneurship requires its own management approach Roessler & Velamuri p.9 → essential to place top management priority on corporate incubation Sathe, 1998, p. 403 → "Management 101" fails
	Support for employees	Ireland, Kuratko, & Morris, 2006, p. 10 → Creating a work environment where all employees are encouraged and are willing to "step up to the plate" to innovate on their jobs is a centerpiece of an effective CES Sathe, 1998, p. 404 → entails thinking and acting in uncustomary ways. Prescribed behavior may provide no guidance here and, indeed, may get in the way; individuals must be allowed the freedom to think and act in unconventional ways. Zahra, 1996, p. 1715 → supports individual and corporate growth, giving employees an opportunity to use their creative skills
	Dealing with risk & uncertainty	Ireland, Kuratko, & Morris, 2006, p. 12 → The degree of entrepreneurship indicates the extent to which an organization's efforts are innovative, risky, and proactive. Raynor, 2007, p. 45 → Uncertainty creates risk and opportunity. Sathe, 1998, p. 403 → Entrepreneurial activity involves high levels of uncertainty
	Given resources and capabilities of parent (resource dependency)	Allen & McCluskey, 1990, p. 64 → different resources easily influence the mission, policy, services and success of incubators Burgelman, 1983, p. 1354 → new resource combinations: certain degree of dependence on the parent, but also opportunities to use larger company's resources Gassmann & Becker, 2006, p. 20 → leverage the parent's resources; One of the biggest advantages of a corporate venture is its access to corporate resources such as capital, expertise, branding and networks (p. 21) Kuratko, Montagno, & Hornsby, 1990, p. 51 → a number of factors such as resources are needed to develop an intrapreneurial environment Wagner & Wosch, 2015 → providing them with the necessary resources for focused and speedy development; Resources: e.g., funding (such as seed investment), skills and capabilities (including technology or production and marketing), experience and business or R&D aptitude of the host company

	Definition of incubator's success ('perceived' success of incubator, successful outcome)	Bierwerth, Schwens, Isidor, & Kabst, 2015, p. 273 → success to be measured from mid- or even long-term perspective Gassmann & Becker, 2006, p. 20 → gain profits in the medium to long-term Gassmann & Becker, 2006, p. 24f. → several exit options after incubation period Gonthier & Chirita, 2019, p. 19 → that each of the incubates has accumulated new knowledge through corporate incubation Roessler & Velamuri, 2015, p. 12 → introduction of products & services that disrupt incumbent position of competitors Wagner & Wosch, 2015 → generate new ideas, products and services and secure long-term growth
A corporate incubator has the potential to create value for the parent.	Value created by corporate incubator	Ahuja & Lampert, 2001, p. 540 → existence of virtuous circle of corporate entrepreneurship Eisenhardt, 1989, p. 540 → Dimensions can be suggested by the research problem or by existing literature, or the researcher can simply choose some dimensions.
The industry plays an important role regarding the need for innovation.	Environmental/industry factors and type of innovation typical for industry (incremental, sustaining, disruptive)	Baden-Fuller, 1995, p. 6 → Strategic and continuous innovation is central to the competitive process in this view; responding to industry dynamics can constitute a competitive advantage to the firm Bierwerth, Schwens, Isidor, & Kabst, 2015, p. 273 → parameters within the firm's industry can seriously impact the outcomes of CE in terms of performance Eisenhardt, 1989, p. 540 → Dimensions can be suggested by the research problem or by existing literature, or the researcher can simply choose some dimensions. Guth & Ginsberg, 1990, p. 8 → In what kinds of competitive environments do successful firms make more radical and more frequent product innovations? Zahra, 1996, p. 1730 → need to explicitly consider the influence of a firm's competitive setting on the design of its governance system and corporate entrepreneurship.
The establishment of an incubator involves strategic commitments by the parent.	Strategic commitments made by parent	Eisenhardt, 1989, p. 540 → Dimensions can be suggested by the research problem or by existing literature, or the researcher can simply choose some dimensions.
A corporate incubator is a potential solution to the strategy paradox.	Solution to Strategy Paradox	Burgelman, 1983, p. 1349 → large, diversified organizations need both, entrepreneurial activity (diversity in strategy) and order (in strategy) to secure the business's survival Eisenhardt, 1989, p. 540 → Dimensions can be suggested by the research problem or by existing literature, or the researcher can simply choose some dimensions. Raynor, 2007 → one part of management deal with the companies' core business and another, separate part of management pursuing promising opportunities and mitigating risk
Proposition	Concept from RQ	
The incubator program along with external industry and market factors has an influence on the innovativeness and the competitive advantage of the parent and is able to mitigate the innovator's dilemma.	Competitive advantage (incubator's influence on CA of parent)	Ahuja & Lampert, 2001, p. 521 → some large firms are able to establish routines that enable them to generate significant technological breakthroughs, and reinvent themselves and retain technological leadership in their industry Covin & Miles, 1999, p. 49 → corporate entrepreneurship is engaged in to increase competitiveness Narayanan, Yang, & Zahra, 2009, p. 58 → CV could be a source of companies' heterogeneity, a major source of competitive advantage Wagner & Wosch, 2015 → Generation of new business activities and competitive advantages
	Innovativeness (role of incubator within parent's innovation agenda, level of innovativeness, type of innovation pursued)	Deloitte, 2019 → CI is a bottom-up approach to internally develop radical innovations mm1, 2019 → no inferences on corporation's innovativeness can be drawn Wagner & Wosch, 2015 → Increased potential for innovation
	Innovator's Dilemma	Ahuja & Lampert, 2001, p. 524 → technologically radical inventions can be regarded as opportunities or options that are subsequently exploited through new ventures or commercialization within the existing business

		<p>Berglund & Sandström, 2017, p. 153 → asymmetric incentives to act entrepreneurial (incumbents compared to new entrants)</p> <p>Christensen, 1997, p. 12 → most incumbents, used to listening to a very large and profitable customer base and developing products with incremental innovation in order to satisfy their needs, are rarely able to identify opportunities for disruptive technologies until it is too late</p> <p>Danneels, 2004, p. 255; Ibrahim, 2016, p. 1767 → what incumbents should do is to find a balance between pursuing sustaining innovations while at the same time learning about and investing in disruptive innovations with independent business units</p> <p>Eisenhardt, 1989, p. 540 → Dimensions can be suggested by the research problem or by existing literature, or the researcher can simply choose some dimensions.</p>
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9.3 Data collection table – grow platform GmbH

Within-case dimensions of analysis	
Concepts	Grow Platform GmbH
Strategic goal of establishing a corporate incubator	<ul style="list-style-type: none"> - ... Transfer back to Bosch to scale their business and technologies in business divisions, which is the original purpose of grow (Bry, 2018). - Our task is to create new business for Bosch (Bry, 2018). - ... [the business idea] shows potential to become a relevant, scalable and sustainable business for Bosch (grow platform GmbH, 2019). - Teams settle in a newly renovated factory hall in Ludwigsburg, through which a Silicon Valley-like entrepreneurial spirit should breeze (Niebuhr, 2018). - Goal to reach: Think things in a completely new way (Tantschinez, 2018). - With the goal to foster the entrepreneurial spirit in the own ranks and to detect new business in new markets (Tantschinez, 2018). - Products and services should be brought to market faster than it would be possible in a large company (Tantschinez, 2018). - But I want to establish a start-up culture in the company. I want us to always dare something new (Hank & Meck, 2015). - Because we also have ideas under the roof of a corporation, which we want to bring to market as agil and fast as a start-up (Hank & Meck, 2015). - We don't look for hype, which is possibly only profitable in the short term (European Business, 2019). - The business mission was and is to generate sustainable and profitable business through fast and explorative development of new markets within the Bosch search fields (Robert Bosch GmbH Press, 2019). - Those develop new, sustainable and profitable business for Bosch in new markets – based on Bosch-technology (Robert Bosch GmbH Press, 2019). - The in total ten start-ups and innovation teams all originate from the parent corporation and are supposed to tap into completely new business segments for Bosch or develop new products for already existing business units (Oberassner, 2018). - "The task came, for me with two other colleagues, to find a systematic approach on how to explore or incubate new business." (Guse, 2019) - "It was the concrete goal of grow to make new business in new markets." (Guse, 2019)
Management relationship & support	<ul style="list-style-type: none"> - But I want to establish a start-up culture in the company. I want us to always dare something new (Hank & Meck, 2015). - We have proven: We can establish successful start-ups with our own people (Hank & Meck, 2015). - The Bosch-employees can also do start-up. They only have to be led in a different way, have different freedom. We also master that (Hank & Meck, 2015). - Our start-ups have the same pressure to persist in the market as independent firms. We only take charge of everything that does not have anything to do with their business idea – they don't have to take care of facilities or financing. This way they can focus on the business from day one (Hank & Meck, 2015). - „We think afresh about leadership and cooperation and therefore strengthen our innovation culture." Bosch is dismantling hierarchies as well as area and functional barriers in many areas. The company has already taken more than two thirds of the Group common directives out of service and removed individual bonus payments (Robert Bosch GmbH Press, 2019).
Support for employees	<ul style="list-style-type: none"> - At grow we offer start-ups ideal working conditions. We see new work as main enabler and pillar of our daily work (grow platform GmbH, 2019). - "In doing so we do not only support our teams spatially. We are critical partners regarding everything that belongs to successful development of business, from personnel support, finances, the business plan to legal issues as well as marketing.", says Guse (Tantschinez, 2018). - young entrepreneurs can tap into our many years of experience in innovation management, business development and company formation (Robert Bosch GmbH, 2019). - It all starts with Experience, where we explain to our own teams and other Bosch employees, the basics of how start-ups work (European Business, 2019). - The Start-up GmbH offers employees the same agility as a classic start-up, but at the same time provides the comfort and security of a large corporation (Oberassner, 2018).

	<ul style="list-style-type: none"> - For those employees who have taken on the risk of a start-up there should not be any disadvantages when returning to the parent in case of failure (Obergassner, 2018). - They act as start-ups, but the employees enjoy the security of a large corporation (Hank & Meck, 2015).
Dealing with risk & uncertainty	<ul style="list-style-type: none"> - We constantly struggle with the corporate aversion against uncertainty and the impulse to apply core business metrics to new business. Being a separate legal entity helps but only success is the ultimate justification for spending corporate money (Bry, 2018). - A further point is the attitude to risk: For start-ups, possibilities are at the forefront: what the opportunities are, and how they can benefit from them (European Business, 2019). - “[A separate legal entity] also allows for better control within the group and a better assessment of the risks that arise. (...) Pure controlling, pure accounting, to firstly better understand these purely financial, economic risks. Then you can of course give a budget to the whole topic (...), so grow has a fixed budget, which should not be exceeded. This limits the impact on the Group. And in an amount that is relatively subordinate to the entire Group. Well, I do not want to say that it's low on money, but even in case of a total loss the overall impact is bearable for the corporation.” (Guse, 2019) - “Then of course there are (...) control mechanisms within the incubator, which are of course also designed to minimize risks. These are (...) milestone-related controls of the individual teams or the individual topics. They practically always work from milestone to milestone and these are periods of less than a year, rather only 3-6 months. And further funding will only be released when certain milestones have been reached and proven to be successful.” (Guse, 2019) - “There is typically little direct hiring, but the teams work very heavily with external resources, they buy services. Development for example, programming is bought.” (Guse, 2019)
Given resources and capabilities of parent	<ul style="list-style-type: none"> - connection to the group (grow platform GmbH, 2019). - We see ourselves as the connection between the Bosch Group, external partners and start-ups (grow platform GmbH, 2019). - One of the key factors for knowledge transfer and learning is to establish and expand a network of experts. The grow network not only consists of experienced Bosch managers, mentors and alumni, but also includes external entrepreneurs, scientists and experts from different fields of knowledge (grow platform GmbH, 2019). - we are connected to all Bosch internal areas (grow platform GmbH, 2019). - gives internal entrepreneurs access to resources and competences within Bosch and supports with business know-how in areas like controlling, personnel, infrastructure and marketing (Robert Bosch GmbH, 2019). - We are characterized by Bosch and its size as a company, and we look for projects which fit that (European Business, 2019). - The next step is that employees can move into our facilities when they have a theme that is related to new business. There we offer a co-working environment, in which they can do more work on their idea. Finally, we have Incubation, the most intensive stage, where we finance and support innovation teams to create the end product (European Business, 2019). - They [start-ups] are financed by Bosch and supported by the grow platform team from preparation through incubation to the scaling phase (grow platform GmbH, 2019). - With funding granted, one or two teams per year are offered to join Grow giving up the former job and move in with the other teams in the grow location in Ludwigsburg (Bry, 2018). - “Stable financing is of course invaluable.” (Guse, 2019) - “Those [resources] which are not business related, such as IP expertise, IP protection, patenting, corporate law, contract design, a little bit of buying if it fits, purchasing conditions, human resource management, classic accounting, all these things can usually be outsourced to the large corporation.” (Guse, 2019) - “If I can do this internally (inside the group, not necessarily inside grow), I have a high-quality performance at this point without a drain of know-how.” (Guse, 2019)
Definition of incubator’s success	<ul style="list-style-type: none"> - transfer back to Bosch to scale their business and technologies in business divisions (Bry, 2018). - gradual transition to a business division over 1-2 years to work most promising (Bry, 2018). - to find a home inside the corporate for a business that per definition was out of scope before (Bry, 2018). - successful: Deepfield Connect (grow platform GmbH, 2019) → moved to Bosch Software Innovations GmbH (Robert Bosch GmbH, 2019).

	<ul style="list-style-type: none"> - Products and services should be brought to market faster than it would be possible in a large company (Tantschinez, 2018). - The business model of grow also entails the search for investors outside of the Group for the start-ups, if there is no sufficient strategic alignment (Robert Bosch GmbH, 2019). - Until now the employees cannot acquire any shares of the start-ups. In case of success they receive a bonus instead (Oberassner, 2018). - Key is our slogan 'Technology for life'. In that connection, we have formulated a few theme categories, for example Networking, Automation and Digitalization. The idea should also be scalable as necessary, in terms of location and from a time perspective (European Business, 2019). - Success of the incubator: "Those are exactly the gradations [of success]. (...) First stage, I generate new business for the parent company, and therefore generate revenue and earnings. Second stage, I use the results that I have had, even if there is no long-term business for the parent company. Nevertheless, I use what I created, the IP, and sell it externally. And third stage would be, I just avoid further expenses in the parent company, because the business model is not valid." (Guse, 2019)
Value created by corporate incubator	<ul style="list-style-type: none"> - But we also were able to sell urbanmates in 2016 on the market which proved that we create real value (Bry, 2018). - More than 400 business ideas have emerged so far (grow platform GmbH, 2019). - "Meanwhile, after the 6 years, it is actually the case that revenue for the large corporation was created. There are specifically two topics, which were transferred back into the Group, with the appropriately qualified employees and with their customer relationships, which will eventually also lead to positive returns. In another case a deal has been sold completely externally, where there has been some return, some refinancing of the expense." (Guse, 2019) - "That's a kind of opposite pole that you build there. Of course, in any old corporation you have these structures that are not fast and not agile. And you will not get rid of them so quickly, because there is a core business behind it, which is usually profitable. You will not just destroy this. But by having a counterpart just like grow, you convey that there is also potential and that as an employee you have opportunities to do other activities later on." (Guse, 2019)
Environmental/industry factors	<ul style="list-style-type: none"> - Of course, companies also need to work with academic institutions and they must observe competitors, partners and suppliers. Start-ups belong to this list. If one of these elements is ignored, and other competitors with them instead, then the prospects for your company are not good (European Business, 2019). - There is competition, by now established good network to other large corporation, lively exchange, culture of opening, partly with competitors as well, increased willingness for exchange (Stifterverband, 2018). - At Bosch, we talk a lot about transformation, and that affects all our employees and relates, on the one hand to the products, and on the other hand to the company culture. This is how it must be, to be successful in the market and this is mirrored in the terminology we use as well (European Business, 2019). grow is a working environment as a source of radical innovation (grow platform GmbH, 2019). - "We rather have ideas and change our business strategy than to be attacked from the outside.", says Volkmar Denner, Bosch's chairman of the board. Disruption from within, as economists would say (Oberassner, 2018). - "That [need for innovation] also depends on your current company's position. One could imagine that there are companies that do not need that because at the moment they are highly profitable in their core business and also very innovative, that's just in their corporate culture. (...) If we have an old big company with mature business, then we need something like that [innovation]." (Guse, 2019)
Strategic commitments made by parent	<ul style="list-style-type: none"> - Bosch has invested three million euros in the premises, artists were tasked with the design (Oberassner, 2018). - Bosch invests about three million euros in the new premises (Tantschinez, 2018). - They stay Bosch employees, live like real start-up entrepreneurs with the feeling that it is their own company. To strengthen this spirit, we also rent facilities for the teams that are outside of the Bosch premises. If it doesn't work out, we stop the project and take the company sign down (Hank & Meck, 2015). - They [start-ups] are financed by Bosch and supported by the grow platform team from preparation through incubation to the scaling phase (grow platform GmbH, 2019). - "If we do not have the backing of the top management in a company, it cannot work because you will just not get the support of the next level. In my opinion the first most important thing is that you make a decision at the top management level in the company and you always emphasize and affirm

	<p>this. (...) And that costs nothing. That's just a pure, verbal commitment to it. (...) Then comes the topic of budget, so a stable, reasonably predictable budget over several years, because we have to remember again that the whole thing takes 5-8 years for a new business, until [it] stands on its own legs and becomes profitable. And then things like access to corporate resources. I'm sure if you completely isolate such an incubator and let it run outside, then it will not be able to compete against the free-funded start-ups in the open market because those are still a tad quicker and still have less to consider. (...) And then this release of corporate policies and rules. Certainly not of all, but of those that strongly influence speed. That would be the four topics I would say require strategic commitment.” (Guse, 2019)</p>
Solution to Strategy Paradox	<ul style="list-style-type: none"> - Clear rules and processes are important for efficiency and quality in the core business, but those have to be different for start-ups. → small islands (Stifterverband, 2018). - The core business only makes initiatives like grow possible. There is a high responsibility to employ the money in a way that it secures tomorrow's jobs (Stifterverband, 2018). - As a legally independent company, we can follow a path at grow that is ideal for us. The platform is the basis with its own legal framework (grow platform GmbH, 2019). - “That's this duality of exploration and exploitation. So, in the core business existing business models are pushed cost-efficiently and with high quality, in order to make money. (...) And then, on the other hand, I would explore new business models, for which I do not know which ones will reach its destination because of the high degree of uncertainty. That was designed in the concept of grow really early on (...). For a more or less robust company strategy, we need both, we have an efficient, quality-oriented management in the core business, but really detached from it, with another organization, with other people, this exploration of new business areas, where we also accept a lower success rate.” (Guse, 2019)
Competitive advantage (incubator's influence on CA of parent)	<ul style="list-style-type: none"> - Denner sees a significant competitive advantage in Bosch's innovation culture: “We are profiting from a workforce that is used to constantly strive for improvement.”, (Robert Bosch GmbH Press, 2019). - “So in terms of success or competitive differentiation, there are several aspects to such an incubator. As I said earlier, the whole thing is a very long-term story, so there is no immediate effect there. But of course, opening up new business fields is always a competitive factor. But at least two others have to be added. One is the external effect to the brand, thus the obvious proof of the ability to innovate, a citable presence of such vehicles. Let's just say, I can tell everyone, we have an incubator, period. Then I'll be perceived as more innovative per se than others who do not. (...) And now this brand effect, which leads back to two things, of course. It is attractive again for customers, who say, alright, they do that, then I have a certain amount of confidence. And the other, new employees. This way I create a certain attractiveness for new employees. These are two effects that are extremely difficult to measure, but certainly exist. And above all, they appear earlier than the pure economic success of new businesses.” (Guse, 2019)
Innovativeness (role of incubator within parent's innovation agenda, level of innovativeness, type of innovation pursued)	<ul style="list-style-type: none"> - With innovative ideas we develop new, sustainable and profitable business for Bosch (grow platform GmbH, 2019). - grow is a working environment as a source of radical innovation (grow platform GmbH, 2019). - We provide 500 million euros every year for example and tell the employees: Look for new topics, develop ideas, think afresh without us telling you in which direction to go. Currently there are products emerging that no one would expect from Bosch, from completely different corners than our traditional business (Hank & Meck, 2015). - Freedom to develop radical ideas (Robert Bosch GmbH, 2019). - With innovation it is primarily about speed (Stifterverband, 2018). - Our start-ups and entrepreneurs are focused on radical ideas in order to develop new, sustainable and profitable business in new markets for Bosch (Bry, 2018). - “With this construct that we have an independent legal entity, which can pursue other processes than the parent company, so that also a different culture can establish - in particular with a suitable location for it - applies: the basic concept worked and creates at least sometimes radical Innovations. If we also take the step, is it disruptive to our own business? - we had excluded that right at the beginning. Disruptive innovation in a corporation brings with it a whole lot of other problems. We also have to take a second step back for definition. When I say disruption, I can either say I disrupt the business model of others. And I'd say that's okay, we can do that with grow, we have done that with grow. But when I disrupt my own business models - and that's what we've ruled out - I'm in a conflict of channels or even brands. So, if I address my existing customers out of the same Group - who get a certain function out of the core business and pay for it - with a disruptively different function, perhaps with a different corporate brand, then I will have huge conflicts in the company. That's why we excluded that at the time.” (Guse, 2019)

	<ul style="list-style-type: none"> - “Then the left upper quadrant [on the innovation graph] remains open, where we say we want to make business innovation with our own resources. And that is the gap that grow actually closes in this innovation landscape. (...) ...so it is complementary.” (Guse, 2019) - “For one thing, the success rate is, of course, significantly lower than classic R&D in the core business, where we are maybe at 80, 90% success rate, and in new business we're talking maybe 20 or less. I have to control my resources accordingly and say, maybe I can spend 95% of my total budget for classic R&D innovation and then maybe a few percent that can go to new business and internal incubation.” (Guse, 2019)
Innovator’s Dilemma	<ul style="list-style-type: none"> - Large corporations are like supertankers - usually they are not really agile to quickly develop and try out new product and business ideas. Bosch found an answer to that challenge and founded the grow platform in Ludwigsburg as the internal incubator of Bosch (grow platform GmbH, 2019). - They are dependent on technology suppliers, often smaller companies, more dynamic, can implement innovation faster, often medium-sized companies in Germany, they lack the necessary financial and personnel resources to create the technology themselves, depend on the respective promotion of these new technologies (Stifterverband, 2018). - Disruption, so to say an innovation that replaces existing products and services on the market, is also possible in a large Group (Obergassner, 2018). - It is obvious that two completely different worlds collide. Many large corporates are highly specialized, which is true of Bosch. This is not typical of start-ups, which are much smaller, and each member of the team does everything at the beginning (European Business, 2019). - An approach gaining more popularity: Groups in Germany create “islands” for their employees who have remarkable ideas for radical product and services. At Robert Bosch this island is called “grow – Heimat for Start-ups” (Niebuhr, 2018). - “That [disruptive innovation] has massive consequences for the core business, employment, earnings slump, whatever. So you cannot do that uncontrollably.” (Guse, 2019)

9.4 Data collection table – DB Intrapreneurs

Within-case dimensions of analysis	
Concepts	DB Intrapreneurs
Strategic goal of establishing a corporate incubator	<ul style="list-style-type: none"> - We offer employees and business units of Deutsche Bahn the opportunity to develop digital business models and products in a suitable setting (DB Intrapreneurs, 2019). - Intrapreneurship enables promoting entrepreneurial thinking talents and establishing agile method competencies so as to push disruptive innovation within the organization. For DB Intrapreneurs the focus lies on the development of employees and of new digital business of the Deutsche Bahn. This is why we offer a comprehensive ecosystem in the Digital Base in Berlin and our second location in Frankfurt, which not only offers virtual and physical space for idea implementation, but also fosters strong personal networking (DB Intrapreneurs, 2019). - As the internal incubator, our purpose is to develop and validate digital business models with the goal of spinning them out as external ventures or internal corporate start-ups. To be exact, we have two clear goals: Creating new digital business models which generate new revenues with DB-external companies and thus diversifying DB's product portfolio; Enabling employees in user-centered and agile methodologies as well as entrepreneurship and thus fostering long-term cultural change (Bry, 2019). - The team relies on the two pillars of intrapreneurship and company building and supports employee teams and DB business units with the development and realization of their digital business model (Deutsche Bahn AG, 2019). - To employ and strengthen the innovation power of employees (DB Intrapreneurs, 2019). - Want to develop the digital business of tomorrow and empower employees (Linder, 2019). - Business model development: support intrapreneurs to develop new business models efficiently and user-centered, with the option of integrating these business models into the Group and continuing them (Linder, 2019). - Have set out to develop the new, digital business of tomorrow (Linder, 2019). - The goal is also to break up silos and work cross-divisional (Linder, 2019). - "Deutsche Bahn also has a lot of employees and therefore a lot of innovation potential in its own ranks. And that's how the intrapreneurship program was launched." (Manager DB Intrapreneurs, 2019) - "we actually started with the goal of spreading new digital business models.", (Manager DB Intrapreneurs, 2019). - "We actually "only" started with the goal of building start-ups, to build new business models." (Manager DB Intrapreneurs, 2019)
Management relationship & support	<ul style="list-style-type: none"> - We believe in the innovation power of all Deutsche Bahn' employees and want to solve challenges entrepreneurially (DB Intrapreneurs, 2019). - Authorization of internships for all intrapreneurs necessary from the side of executives, so that such a Build Phase can go for realization (DB Intrapreneurs, 2019). - Clear communication between all stakeholders, openness and understanding for the goals and needs of all parties, but also willingness to create new freedom and to experiment, are building the basis for successful entrepreneurship in the Group. Because at the beginning of the project phase it is not clear, how successful a team will emerge from the so-called proof of concepts, executives and sponsors in particular apply a lot of trust. It also displays their degree of thinking and acting entrepreneurially (DB Intrapreneurs, 2019). - Erwin Schick: „Executives, no matter on which hierarchy level in the group, should create an environment for their teams, in which every colleague is able and wants to actively participate. For me this also includes giving employees the possibility to further develop good ideas – all the more pleasing if programs like DB Intrapreneurs support that.", (DB Intrapreneurs, 2019). - The support of all executives is essential for the success of a team (DB Intrapreneurs, 2019). - Our team is part of the unit "New Digital Business" which is directly reporting to the Chief Digital Officer of the Deutsche Bahn group, Stefan Stroh. Being part of the CDO organization, we are an elementary part of Deutsche Bahn's digital and cultural transformation strategy across all divisions (Bry, 2019). - Our program is explicitly regarded and promoted as an intense training opportunity by HR, Talent Management and most importantly by managers who even sometimes motivate their employees to participate in our program (Bry, 2019).

	<ul style="list-style-type: none"> - The manager of HR and legal and at the same time the patron of our intrapreneurship program, Martin Seiler (DB Intrapreneurs, 2019). - I am convinced, that there is an incredible potential in our workforce and that there is incredible innovative power (DB Intrapreneurs, 2019). - ... to use this potential, I think that's excellent ... (DB Intrapreneurs, 2019). - It is very important that the program also has legitimacy from top management (Linder, 2019). - With Martin Seiler factual and felt support of the top management (Linder, 2019).
Support for employees	<ul style="list-style-type: none"> - At the same time, we promote and disseminate entrepreneurial thinking and action (DB Intrapreneurs, 2019). - Intrapreneurship and Co-Creation (DB Intrapreneurs, 2019). - Through our methods, workshops and intensive coaching we enable you to think and act entrepreneurially (DB Intrapreneurs, 2019). - Our program is open to both employees (intrapreneurship track) and business units (company building track) from all parts of the organization, from maintenance over engineering to sales. This means that either employees can apply with their business ideas to take part in one of our batches or together with business we work on building new companies (Bry, 2019). - The way projects are incubated depends on if it is an intrapreneurship project or a company building project (Bry, 2019). - During the Design Phase the intrapreneurs participate in four workshops while working in their regular jobs. For the 3-4 months Build Phase intrapreneurs can work full-time on their business idea (Bry, 2019). - Believing that entrepreneurial thinking and acting also has a very high competence component, colleagues not only learn in theory, but are also allowed to carry concrete projects themselves, other depth of learning, if you yourself become active (Linder, 2019). - "However, it is becoming more and more apparent that this program is also a very large empowerment tool. Keyword: action-based learning." (Manager DB Intrapreneurs, 2019) - "This means that there are always people who have come to us who have said that we would like to participate but have no idea yet. And we try to reflect this in workshops before the program, (...) to inspire them on the one hand, to enable them on the other. Even before they work on the actual idea." (Manager DB Intrapreneurs, 2019)
Dealing with risk & uncertainty	<ul style="list-style-type: none"> - As part of our early-warning system, opportunity and risk reports are submitted to the Management Board and the Supervisory Board of DB AG three times a year. Major risks occurring outside of this reporting cycle must be reported immediately. Planned acquisitions are subject to additional specific monitoring (Deutsche Bahn AG, 2019). - there is another exit: positive failure! We promote that failing early in our innovation process, for example because teams found out that there is no problem-solution fit, is in fact a valuable and positive experience for both employees and Deutsche Bahn itself (Bry, 2019). - "We just try to be iterative. This means that entrepreneurs or intrapreneurs are not necessarily super risk-aware, but rather moderate in their willingness to take risks. And through iterative, agile, user-centered work, which at the end of the day means: start-up, i.e. experimental learning, we simply try to cut elephants into slices and break down complexity and accordingly minimize risk. That means we don't say somehow, we believe that in 5 years that and that will happen and lock ourselves in and build a solution, but we proceed very user-centered and always try to validate assumptions and work iteratively to minimize risk." (Manager DB Intrapreneurs, 2019)
Given resources and capabilities of parent	<ul style="list-style-type: none"> - We support you with the resources you need and are currently not available to you. This includes, among other things, a suitable network and contact persons to help you solve your challenge (DB Intrapreneurs, 2019). - If an intrapreneurship team receives the financing for the build phase following the design phase, during which the specific design of the business model takes place, a temporary internship at DB Intrapreneurs in Berlin will follow for four months (DB Intrapreneurs, 2019). - We offer you the opportunity to get to know and apply user-centered methods! You can not only learn entrepreneurship with us but also live! We provide you our network and our community (DB Intrapreneurs, 2019). - Both Build and Grow Phases should take place in Berlin, in our DigitalBase of Deutsche Bahn (Bry, 2019). - The teams will be accompanied by workshops, coaching, workplaces and access to the startup network (Deutsche Bahn AG, 2019). - The Group trains the intrapreneurs in startup methods such as design thinking and releases them up to one hundred percent from their actual activity - initially with the right of return to their old position (Weck, 2019).

	<ul style="list-style-type: none"> - They also created physical innovation hubs and creative centres, like the Mindbox in Berlin, for employees to go and get inspiration and mentorship for their ideas. Each location is focused on different areas – one might focus on customer experiences, while another looks mainly at different technologies (Innov8rs, 2017). - Resources from the group: financial resources for intrapreneurs, network (Linder, 2019). - “And the program is divided into two phases. The first phase is taken over by our department as far as costs are concerned. And for the second phase, the teams have to find a sponsor, within Deutsche Bahn. This means that we ensure that there is a thematic investor for the model.” (Manager DB Intrapreneurs, 2019) - “We use the network in any case with regard to contacts within Deutsche Bahn, but also contacts we have through employees in our respective environment.” (Manager DB Intrapreneurs, 2019) - “The topic of networks is central to us. And of course, also financial resources.” (Manager DB Intrapreneurs, 2019)
Definition of incubator’s success	<ul style="list-style-type: none"> - Creating new digital business models which generate new revenues with DB-external companies and thus diversifying DB’s product portfolio; Enabling employees in user-centered and agile methodologies as well as entrepreneurship and thus fostering long-term cultural change (Bry, 2019). - There are basically three different exit options for our intrapreneurship ventures; (Bry, 2019). - Scaling-up the corporate start-up inside a newly established business unit; (Bry, 2019). - Founding of a new subsidiary company wholly owned by Deutsche Bahn where the intrapreneurs get CxO roles; (Bry, 2019). - Founding of a new start-up by the intrapreneurs (they leave Deutsche Bahn in this case) where our Venture Capital fund Deutsche Bahn Digital Ventures only holds a minority stake. (Bry, 2019). - The special feature is that in the end there is the opportunity to enter the market with DB Digital Ventures as an investor and to prove itself as an independent company. Alternatively, the program offers its participants the opportunity to implement their own digital business model within the Group (Deutsche Bahn AG, 2019). - Once they pass the pitch phase, DB has the ability to either create a division for the product, or to spin it out as a new company (Innov8rs, 2017). - In 2.5 years over 130 ideas from DB employees, over 200 employees started with the program and these come from over 20 business fields (Linder, 2019). - Success is also, when employees start the program for the 2nd or 3rd time (Linder, 2019). - “For us it is not a failure when teams leave (...)” (Manager DB Intrapreneurs, 2019) - “For us, employee empowerment is also a target variable.” (Manager DB Intrapreneurs, 2019)
Value created by corporate incubator	<ul style="list-style-type: none"> - Creating new digital business models which generate new revenues with DB-external companies and thus diversifying DB’s product portfolio; Enabling employees in user-centered and agile methodologies as well as entrepreneurship and thus fostering long-term cultural change (Bry, 2019). - Promote entrepreneurial thinking and action within DB (DB Intrapreneurs, 2019). - “I think with two things. We are an empowerment tool and part of the digital transformation. This means that people experience new working methods, user-centered work and digital competences and take them back into their everyday lives. That creates spill-over effects. And on the other hand, we have certain criteria that we drive. That means, on the one hand, a digital core. We belong to the department of new digital business models, which means that the digital component is essential for us. (...) And the program is divided into two phases. The first phase is taken over by our department as far as costs are concerned. And for the second phase, the teams have to find a sponsor, within Deutsche Bahn. This means that we ensure that there is a thematic investor for the model.” (Manager DB Intrapreneurs, 2019)
Environmental/industry factors	<ul style="list-style-type: none"> - Taking employees on a journey into the digital age - With this vision, we want to promote entrepreneurial thinking and action within DB. Because in times of digitization we are more than ever called for (DB Intrapreneurs, 2019). - We are under increasing competitive pressure in both mobility and logistics; in our core business we have economic tasks to solve (t3n, 2017). Digital transformation assumes one of the most important topics currently, e.g. digitalization of the tracks – digital rail (Deutsche Bahn AG, 2019). - “I don't think anybody can take themselves out and say, well, this is now an industry that is super safe for incumbents, we don't have to do anything about that. That of course has other dynamics in certain industries (...). But I don't think there is a safe industry there for now. Accordingly, I don't think that the DB is in a unique situation.” (Manager DB Intrapreneurs, 2019)

	<ul style="list-style-type: none"> - “What we know in general, of course - and we understand this quite well from the example of mobility - is that digital possibilities, or digitalization, allow players to “attack” players like Deutsche Bahn without using large resources or large asset stocks.” (Manager DB Intrapreneurs, 2019) - “There is the possibility that players, now industry-independent, will also become competitors relatively asset-light. This may be more difficult in industries where you (...) maybe still need a laboratory or another infrastructure to innovate, but also in the light of incubators, accelerators, i.e. players that make their infrastructure available, this is not a compelling obstacle. I would say that Deutsche Bahn does not have to arm itself in any special way. It has to arm itself but has no distinguishing feature with this.” (Manager DB Intrapreneurs, 2019)
Strategic commitments made by parent	<ul style="list-style-type: none"> - They also created physical innovation hubs and creative centres, like the Mindbox in Berlin, for employees to go and get inspiration and mentorship for their ideas (Innov8rs, 2017). - The Group trains the intrapreneurs in startup methods such as design thinking and releases them up to one hundred percent from their actual activity - initially with the right of return to their old position (Weck, 2019). - enter the market with DB Digital Ventures as an investor (Deutsche Bahn AG, 2019). - DB has the ability to either create a division for the product, or to spin it out as a new company (Innov8rs, 2017). - Program is allowed to act "special", program itself is treated like small start-up (Linder, 2019). - “A driver of corporate entrepreneurship is definitely top management support. The fact that the program was initiated at the time by the Group Executive Board naturally made this a very important commitment. However, we treat the program like a small start-up. Means that we didn't get 500 million all at once and they say, well, that should be enough for the next 5 years and if it gets tight, let us know, but the commitment, the successive additional resources we got, we have "earned" ourselves by going into the proof that it is A important, it is B accepted and that C we can do it too.” (Manager DB Intrapreneurs, 2019) - “One commitment is that we ourselves always learn. (...) We have a goal and a vision of driving new business and empowering employees, but at the same time we also keep questioning ourselves, that is to say, what the user himself wants, so we ourselves are user-centered, and I believe that is a very great commitment that we said we want to really live that ourselves too.” (Manager DB Intrapreneurs, 2019)
Solution to Strategy Paradox	<ul style="list-style-type: none"> - Our team is part of the unit “New Digital Business” which is directly reporting to the Chief Digital Officer of the Deutsche Bahn group, Stefan Stroh. Being part of the CDO organization, we are an elementary part of Deutsche Bahn’s digital and cultural transformation strategy across all divisions (Bry, 2019). - I think that's a good mix of ideas on the one hand and the corporation on the other (DB Intrapreneurs, 2019). - “I believe that we will benefit from the fact that once the strategic decision has been made, that we have to take care of new business.” (Manager DB Intrapreneurs, 2019)
Competitive advantage (incubator’s influence on CA of parent)	<ul style="list-style-type: none"> - (...) people experience new working methods, user-centered work and digital competences and take them back into their everyday lives. That creates spill-over effects.” (Manager DB Intrapreneurs, 2019) - “Since the program is still very small, I wouldn't presume to say that it has great competition effects or is now the tip of the iceberg. We are in a group of 300,000 employees and in the DB intrapreneur program work 10. In fact, I would say that at the moment it does not have much influence, at least not a really measurable one. We are simply too small for that. (...) So I think that the topic in general definitely brings competitive advantages, but that it doesn't necessarily have to be based on innovation, but it also has effects on the organization and (...) I think it's good for a company like DB when we say (...) we do that. We now have a trainee program parallel to the intrapreneurship program, a digital trainee program, which also pays off in terms of employer branding, which also attracts talent. Accordingly, I believe that it has an influence on competition, competitiveness and possibly also competitive advantages. At Deutsche Bahn, due solely to the size and age of the program, I don't think it really has a measurable effect on revenue and things like that.” (Manager DB Intrapreneurs, 2019)
Innovativeness (role of incubator within parent’s innovation agenda, level of innovativeness, type of innovation pursued)	<ul style="list-style-type: none"> - We work hand-in-hand with all business units across silos because we believe that interdisciplinarity and co-creation is key to successfully innovate within a corporate (Bry, 2019). - DB has between 400-600 subsidiary companies, each with their own processes, and that posed a challenge for innovation. He knew they had to build a new ecosystem for intrapreneurs in order to drive real change and growth (Innov8rs, 2017). - Want to make DB more innovative (Linder, 2019).

	<ul style="list-style-type: none"> - “Because we are such a big company, we have a lot of different outlets. That means, from an external perspective Deutsche Bahn is perhaps the railway and maybe Schenker, that is logistics, but Deutsche Bahn is its own energy group, Deutsche Bahn has a real estate department, has a fleet of vehicles, has whatever, I also had to learn that first. This means that there are many different ways of driving innovation, and we can address a broad mass of people accordingly.” (Manager DB Intrapreneurs, 2019) - “What we are aiming for are cases that have business model potential and are therefore interesting not only for Deutsche Bahn as a customer or as a product, but also for the external market. That is our criterion. To what extent this is automatically incremental is, I believe, a matter of definition, but at least systemically we don't believe we are aiming at an incremental innovation. So I wouldn't automatically say now that every new business model is not an incremental innovation, you can argue about that, but in principle we don't think incrementally versus disruptively, but we think “it has a business model character” and if something is just a new feature, a new product or something, then that's the way it is, that's not relevant.” (Manager DB Intrapreneurs, 2019) - “I would say that the technology leaps are greater with external start-ups and that other internal vehicles are ideally complementary [to the program]. Or maybe even doing the same thing with more budget and more manpower, but at a different speed.” (Manager DB Intrapreneurs, 2019)
Innovator's Dilemma	<ul style="list-style-type: none"> - Concepts like agile, design thinking and rapid prototyping weren't natural to the leadership at DB, but as results began coming in they got on board and began to understand how fostering and supporting intrapreneurship enabled them to stay ahead of disruption and find new growth areas (Innov8rs, 2017). - As the DB Group, we need to incorporate new technologies much more radically into our business processes. So: much more customer-centered, much faster and much more disruptive. You will not be able to do so with operational suggestion system (Kreimeier, 2018). - “Of course, we are under pressure to act. As I said, we have new players on the market, plus we see how exponential growth is displacing linear growth, that customer expectations are changing accordingly (...) that's no novelty. But at the same time, which is also exciting, it naturally changes the way we work. This means that large corporations or employers in general not only have pressure from outside, but also pressure from inside.” (Manager DB Intrapreneurs, 2019) - “More irrelevant. Again, owed to the size and the side effect, which we have purely due to the size, I would say not 0 or 1, but it successively goes into reducing this. By using the programs, with the methods we use, of course very strongly placing the market perspective and the customer perspective in the foreground and trying not to say that this is the solution and that we know, but what we do is especially in the first phase of the program we really decidedly care about the topic market and customer problem. This means that you don't have to submit an idea to us, but a challenge that you want to address. Accordingly, I believe that this is a way of helping to minimize these innovator's dilemmas, to reduce the risk by focusing very strongly on the market and ideally also by having cross-departmental teams. (...) We give people the opportunity to innovate not only within their department, but also with colleagues from other units. So I don't think there is THE innovator's dilemma for a corporate group, but every unit has its own innovator's dilemma.” (Manager DB Intrapreneurs, 2019)

9.5 Cross-case analysis table

Cross-case dimensions of analysis - table of concepts		
<i>Differences & similarities of within-case analysis – simplified representation based on within-case analysis</i>		
Concepts	grow platform GmbH	DB Intrapreneurs
Strategic goal of establishing a corporate incubator	New business in new markets	New digital business models and empower employees with new skills and methods
Management relationship & support	Strong and continuing support, legitimacy	Strong and continuing support, legitimacy
Support for employees	Tangible + intangible resources, freedom	Tangible + intangible resources
Dealing with risk & uncertainty	Mechanisms in place to reduce risk (milestone-based funding of teams, internal hiring, ...)	Fail fast & early, iterative approach to minimize risk for teams and program itself
Given resources and capabilities of parent	Facilities, funding, network, business know-how, business administration	Facilities, funding, network, methodologies, community
Definition of incubator's success	3 stages: 1) new business generates new revenues, 2) sale of business/ IP, 3) avoid further expenses, discontinue invalid business models	Creation of new digital business models inside or outside of the Group, cultural transformation, employee empowerment
Value created by corporate incubator	New revenue streams created, topics transferred back into parent company, outside effect of incubator	New revenue streams created, at least 1 topic transferred back into parent company, empowerment of employees and spill-over effects
Environmental/industry factors, typical type of innovation	Highly diversified, strong position, rather radical innovation (not disruptive at the moment)	Increased competition and new entrants with new digital business models, no industry is safe for incumbents, type of innovation depends on idea and business model – digitalization is the big topic
Strategic commitments made by parent	Management commitment, stable budget, access to corporate resources, release of many parent's policies and rules	Management commitment, funding e.g. via DB VC branch, access to corporate resources, release from work, commitment to learn and evolve as a program
Solution to Strategy Paradox	Exploration in core business, exploration with grow	Exploitation in core business and exploration of new digital business models with DB Intrapreneurs to sustain and develop core business
Competitive advantage (incubator's influence on CA of parent)	More of secondary nature – brand reputation and appeal strong and existent before economic effects	Rather of secondary nature due to size and age of program, more brand reputation and internal spill-over effects and transformation through employee empowerment
Innovativeness (role of incubator within parent's innovation agenda, level of innovativeness, type of innovation pursued)	Complementary vehicle for innovation, focused on radical innovation	Part of new ecosystem striving for digitalization and innovation, complementary, focused less on type of innovation but on business model character of idea (not aiming for incremental innovation though)
Innovator's Dilemma	No intention of generating disruptive innovation at the moment	Less relevant, successively decreasing

9.6 Interview Guideline

1. What was the reason for the establishment of the incubator? Was there a trigger event? What are the objectives that you want to achieve with the incubator?
2. Why was an internal incubator business model chosen? Why not the other way around, no external? Would you say that it appears to be easier to have an externally focused incubator and why?
3. What is the perceived success of your incubator in general (ideas, products, innovations generated and developed, start-ups graduated ...)?
4. How would you define a successful outcome for your incubator (spin-in, incorporation to business unit, sale of start-up...)?
5. What is your perceived level of innovativeness of your incubator? What type of innovation do you rather pursue within the incubator? Incremental, sustaining or disruptive? Why?
6. What is the perceived potential of creating disruptive innovations from within the incubator?
7. How would you describe the role that the incubator plays for the innovativeness of the company compared to other innovation-tools like 'classic' R&D, strategic investments, acquisitions and so on?
8. How important are resources and capabilities from the parent and in what way are they put to use?
9. How do you deal with risk and uncertainty? What is your attitude towards this? Do you have specific measures in place to mitigate risk?
10. In your opinion, how does the incubator create value for the parent?
11. What role does the whole industry play regarding the necessity to innovate in order not to lose to your competitors?
12. What would you say is the incubators' influence on the competitive advantage for the company?
13. What are the main strategic commitments made in order to foster the potential of the incubator (e.g. investment!)?
14. Are you familiar with the 'Strategy Paradox'? Would you say that the incubator poses a potential solution to it?
15. Would you say that the incubator helps the company to mitigate the innovator's dilemma?

9.7 Interview Transcript – Peter Guse

Held on Thursday, 28th of November 2019, 15:00 WESZ via phone

Present: Jennifer Kuerner (interviewer), Peter Guse (interviewee), founder and former CEO of grow platform GmbH

JK: The first question would be, how did you even come up with the idea of starting grow in this form, or the goal that you initially wanted to achieve with the incubator?

PG: So the trigger was various successes and failures in the Group in the exploration of new business. The most striking success that can be cited here is the e-bike business at Bosch. The first beginnings were in 2008, 2009 and was then made public in 2011 and now it is relatively well developed and highly profitable. If you look at the history, you find that a lot of coincidences and luck were needed to make this business develop within the Bosch Group. And the meeting of temporal incidents and the intervention, or the personal action of particular individuals. And since there were actually some failures that are just not public, the task came, for me with two other colleagues, to find a systematic approach on how to explore or incubate new business. So, as a direct answer to your question, it was about a systematic approach, the systematization of new business development.

JK: Okay, yes. And why exactly then have you decided to take an internal model, because you are not looking externally for start-ups now, but are actually taking in companies or ideas from your own employees?

PG: Yes, on the one hand it is the case that the external model already exists at Bosch or existed. In 2007, Robert Bosch Venture Capital started investing in external start-ups and gaining access to these technologies. That's the one point. The other is, you could imagine mixed models where you incubate external startups internally. There are a number of legal issues, starting with the IP issue of having to buy what will be incubated later, and employment issues. So, if you do not find any (incomprehensible) form for it, then it is difficult to work at contract level with (development-intensive?) start-ups.

JK: Yes. Yes, okay. That makes sense. But it probably also helps that grow is its own, so to speak, legal entity, its own GmbH, right?

PG: That is again, exactly. To be added here, so it is partly so, so to speak, liability (encapsulation) (wrong word?!) - And it also allows to pursue (incomprehensible) with other rules, and of course an important reason is also transparency, because from the outset the possibility was included to externalize the incubated businesses again, i.e. to sell. And that's just the topic of financial transparency for the potential investor, and on the other hand for tax reasons.

JK: Yes. Okay, okay. And how did you perceive the success of the incubator in general, that is, the number of projects and ideas that were generated and developed there and now also start-ups that were in the incubator and have also completed the time there - successfully or not - so this general success?

PG: That's a question of definition. If one looks from an investor's point of view or how much money has flowed into the subject, and now looks at it from the perspective of who puts the money in there, the company or the parent company, then of course it's interesting how much of the topics incubated, tend to generate sales and also lead to a reflux of funds. And of course that has a temporal dimension. It can be said that it takes roughly about 5-8 years for such new business activities to become productive and eventually (unintelligible) profitable. Now after 6 years we have just reached this point and there are 2 topics that are currently being pursued in the large corporation as a business, out of a total of 10, which were once set up. One cannot

conclude, however, the overall success rate, but that looks somewhere, in any case, this is less than 50%. That's not very surprising when you deal with the topic and take a look into the start-up scene. You can also take success a little bit further. For a large corporation, it is also a success, to recognize early, sound and reliable whether a business is unstable, possible or not possible and then decide early on, to discontinue investing. Perhaps briefly to illustrate this: if you took a look in the newspaper this week – This week Bosch has decided to stop the experiment with electric scooters in Berlin. After having done that in Berlin for over 3 years now and also started Madrid and Paris. This is an example where it can cost a lot of money to make such a decision.

JK: OK. So, in other words, as I said, the incubator is relatively medium to long term oriented and accordingly, you would also say that the ultimate goal is to develop or generate new business for Bosch. So a success would be, for example, the incorporation of a start-up into a business unit or would you say, the sale of a start-up can also be considered a success, in which case, of course, Bosch gains not quite as much as reintegration to or reopening a business unit, but would still be considered a success?

PG: You see, those are exactly those gradations. So, when you say how do you define success. If you are a big (incomprehensible), then well, yes, the first stage, I generate new business for the parent company, and therefore generate revenue and earnings. Second stage, I use the results that I have had, even if there is no long-term business for the parent company. Nevertheless, I use what I created, the IP, and sell it externally. And third stage would be, I just avoid further expenses in the parent company, because the business model is not valid.

JK: Yes, alright. That would complete this point, I think. But on to the next. How did you perceive the potential of grow to really generate disruptive innovations or the general innovation capacity of grow, or indeed of the employees, with the support of grow and the team, to really not only produce an incremental improvement of a product, but really something completely new?

PG: Firstly, it was the concrete goal of grow to make new business in new markets. So we selected the companies specifically for that purpose and that's how it happened. We also created this framework with grow, that was our initial goal. So it's no wonder this worked. With this construct that we have an independent legal entity, which can pursue other processes than the parent company, so that also a different culture can establish, in particular also with the location suitable for it, applies: the basic concept worked and creates at least sometimes radical Innovations. If we also take the step, is it disruptive to our own business? - we had excluded that right at the beginning. Disruptive innovation in a corporation brings with it a whole lot of other problems. We also have to take a second step back for definition. When I say disruption, I can either say I disrupt the business model of others. And I'd say that's okay, we can do that with grow, we have done that with grow. But when I disrupt my own business models - and that's what we've ruled out - I'm in a conflict of channels or even brands. So, if I address my existing customers out of the same Group - who get a certain function out of the core business and pay for it - with a disruptively different function, perhaps with a different corporate brand, then I will have huge conflicts in the company. That's why we excluded that at the time.

JK: Then you cannibalize your own business and that's probably not wanted.

PG: Put it this way, this definitely requires a top-level management decision if you do that. And that has massive consequences for the core business, employment, earnings slump, whatever. So you cannot do that uncontrollably. Therefore, the complicated thing is always at the beginning, so that one says, we'll save that for later. It has not happened so far.

JK: Okay. That's also exciting to hear. What would you say now is the incubator, or grow, in relation to other innovation channels that are available in the company, for example, classical R & D, since Bosch is already quite far ahead with quantum computing and everything that

goes with it, or even acquisitions that one makes, or even strategic investments in other companies? How does grow stand in relation to that, in terms of innovation potential?

PG: You have to stretch the innovation first. If we think of this as two-dimensional, then perhaps the vertical axis is the topic of business innovation, downwards is technology innovation, and then we can adopt idea generation or internal resources to the left and external sources of ideas to the right. And if we now classify this landscape, which is common in large corporations, we typically find the classic R&D topic in the bottom left, research and development with internal resources within the core business. Business units that have their own R&D departments. And if we look at Bosch, then there are about 70,000 engineers, who spend about 6. something billions of euros each year. That is well over 90% of the total R&D operation. And if we go on and say, what else are we doing? Then there's something like a central research, which also many companies have, where they say you work with external research institutions together, so Fraunhofer, universities and so on and create third (unintelligible) research or funded research, such things. Then you have already crossed this line to the right, that you look outside, use external resources. And there you will spend less money again, so we are more at like 100 million here. And now we go even further and come slowly towards business innovation, the point where I said earlier: classic venture capital. Classic corporate venture capital invests in external start-ups, both to have access to technology, as well as insights into new business models. And if we now just go in the direction of business innovation, that is to say we want to increase our revenue from external sources, that would be classic M&A business. In other words, we spend our money to buy in external business. (incomprehensible) Then the left upper quadrant remains open, where we say we want to make business innovation with our own resources. And that is the gap that grow actually closes in this innovation landscape. In very simplified terms of course. But I think this innovation landscape is reasonably generic for all companies and that's what grow does to fill that gap, so it is complementary. Well that's far from the same, of course ... so we have two aspects of efficiency. For one thing, the success rate is, of course, significantly lower than classic R&D in the core business, where we are maybe at 80, 90% success rate, and in new business we're talking maybe 20 or less. I have to control my resources accordingly and say, maybe I can spend 95% of my total budget for classic R&D innovation and then maybe a few percent that can go to new business and internal incubation.

JK: Okay okay. And what would you say, or how do you estimate the influence of the incubator itself, or of grow, on the competitive advantage of the whole organization. I mean, now you have said that relatively, of course, it will only take up a very small percentage but it's probably not bad either, so maybe it's just good to have that complementary?

PG: So in terms of success or competitive differentiation, there are several aspects to such an incubator. As I said earlier, the whole thing is a very long-term story, so there is no immediate effect there. But of course, opening up new business fields is always a competitive factor. But at least two others have to be added. One is the external effect to the brand, thus the obvious proof of the ability to innovate, a citable presence of such vehicles. Let's just say, I can tell everyone, we have an incubator, period. Then I'll be perceived as more innovative per se than others who do not. If it is true, and I can justifiably claim and prove that, then all the better. That's one aspect. And now this brand effect, which leads back to two things, of course. It is attractive again for customers, who say, alright, they do that, then I have a certain amount of confidence. And the other, new employees. This way I create a certain attractiveness for new employees. These are two effects that are extremely difficult to measure, but certainly exist. And above all, they appear earlier than the pure economic success of new businesses.

JK: Yes, that's easy to imagine. Yes, of course I mean, today you hear about all the companies, or most of the big companies, that now have accelerators, innovation hubs and incubators and you can see that there is definitely something going on.

PG: Exactly and now of course it depends again, if a company can decorate itself with a successful incubator, which in turn is better for the differentiation than if this is just some colorful village where innovation namely takes place, but where there are actually only a bunch of colorful rooms.

JK: So, you would say that in the case of Bosch it is indeed something that is actively understood in such a way that you want to push the whole thing forward, and not only be able to say that we also have an incubator. Everyone does that now. It's so modern and whatever.

PG: Yes, you can actually find the evidence if you google a little bit. You will find a massive external appearance of grow and you will find hints on grow even in corporate publications from time to time. So, if any speeches are published or if business reports are made, hints and quotes have cropped up in the past over and over again.

JK: Yes, I've already seen all of that. I have indeed found a lot about it. It's very true.

PG: ... that's right, you found that yourself, that's proof that it works.

JK: Exactly, yes anyway, by itself ... I mean, of course, regional newspapers have reported that it was reopened in Ludwigsburg. It went so far that Mr. Volkmar Denner, dr. Denner was also there for the opening and gave a speech as I saw. Well, definitely.

And now again a bit of a topic jump, risks and uncertainties concerning the future. That's always difficult to assess, how are things going to evolve in the future. And how did you do that with grow, or how do you translate that into grow? So how do you deal with this uncertainty about the future? Are there certain mechanisms that have been put in place to reduce risk, or how is that going?

PG: There is a whole series of them. That starts again with the fact that it is a separate legal entity. A unit on the one hand ensures that there is financial transparency. And this also allows for better control within the group and a better assessment of the risks that arise. It is relatively easy, on the one hand, to demarcate the money flowing in, to demarcate the income, but to also have mechanisms where it is possibly invested in (not completely understandable). Pure controlling, pure accounting, to firstly better understand these purely financial, economic risks. Then you can of course give a budget to the whole topic, that also happens, so grow has a fixed budget, which should not be exceeded. This limits the impact on the Group. And in an amount that is relatively subordinate to the entire Group. Well, I do not want to say that it's low on money, but even in case of a total loss the overall impact is bearable for the corporation.

JK: In proportion...

PG: Exactly, in proportion, exactly. You have to scale that down to the size of the respective Group. And then of course there are inside, like control mechanisms within the incubator, which are of course also designed to minimize risks. These are, for example, milestone-related controls of the individual teams or the individual topics. They practically always work from milestone to milestone and these are periods of less than a year, rather only 3-6 months. And further funding will only be released when certain milestones have been reached and proven to be successful. And with the employees, of course, as a company, you also have responsibility for the employees. There is typically little direct hiring, but the teams work very heavily with external resources, they buy services. Development for example, programming is bought. So right now, performance is bought rather than hiring new employees. Just to also minimize the risk that you have to take care of employees who then have no job anymore. One also wants to give the existing employees the certainty that success or failure does not decide on their professional future.

JK: Yes, in any case. OK. And the next question, how would you say grow has been able to create or generate value for Bosch, in that you have now successfully created start-ups that are reintegrated into business units, or once again a combination from these things, that the incubator exists at all and has just external effect, or what would you say to that?

PG: Meanwhile, after the 6 years, it is actually the case that revenue for the large corporation was created. There are specifically two topics, which were transferred back into the Group, with the appropriately qualified employees and with their customer relationships, which will eventually also lead to positive returns. In another case a deal has been sold completely externally, where there has been some return, some refinancing of the expense. And then actually ...

JK: Urbanmates right?

PG: Yes, correct.

JK: They are apparently now based in Tübingen.

PG: Yes, but I do not know if they are already on the market. Probably not. So let's say in the long term, the topic itself has not been successful, so at least Bosch has separated itself in time

...

JK: Was able to get out well.

PG: Yes. Yes and then, of course, this external effect. The fact that you have a provable, tangible testimony that you are innovative. At the moment I think that is still dominating honestly. This external effect that arises, as difficult to measure or quantify as it is, currently outweighs even the economic benefits.

JK: Yes, I find it really impressive how much you can see of that. That's, I have to say, especially from a student perspective, for me for example, graduating soon, it's definitely more attractive to have a company that pursues such things and will be interesting in the future, compared to companies that are stuck in older structures, or even more rigid structures, doing nothing there or not positioning themselves accordingly.

PG: Right, and that's a kind of opposite pole that you build there. Of course, in any old corporation you have these structures that are not fast and not agile. And you will not get rid of them so quickly, because there is a core business behind it, which is usually profitable. You will not just destroy this. But by having a counterpart just like grow, you convey that there is also potential and that as an employee you have opportunities to do other activities later on, exactly.

JK: And how important were now or are resources and capabilities coming from Bosch itself? Would you say, something like the network that you have internally or the expertise that you can get from the group are above all the important points, or what resources ... or of course financial resources?

PG: Yes, that's how it starts, of course. Stable financing is of course invaluable. But you always have to see, in some cases, freely financed start-ups in the open market have more resources than a group subsidiary can provide. But they are not that stable. So that's always a bit, you can see it this or that way, but stable financing is definitely worth a lot. And then with the resources, which now are not business related, we said yes, we want to do new business in new markets, you can hardly expect that you will find something like this in a large corporation. But those who are not business related, such as IP expertise, IP protection, patenting, corporate law, contract design, a little bit of buying if it fits, purchasing conditions, human resource management, classic accounting, all these things can usually be outsourced to the large corporation. (incomprehensible). Of course, you can buy all this externally, but then I have the problem that I have to explain again what I actually do. If I can do this internally (inside the Group, not necessarily inside grow), I have a high-quality performance at this point without a drain of know-how. That's pretty helpful. And now again regarding experts: Of course, the bigger the company, the better. Of course, the chance to have real experts, domain experts on specific topics. But of course, you always have to check what suits you. If we say new business in new markets - yes, of course I want to use existing competencies, but if they were that pronounced, then probably there would already be business. So, you always have to see a bit. But yes, you just have to use everything that is available, of course.

JK: Yes, sure. And how is this received in the Group? If you're saying right now, well, a little is going to be outsourced, let's say what is business-administrative, or in-sourced, how is the mood towards this in the company?

PG: We have made the experience that we simply need clear rules for that. You have to communicate very clearly what you do there and why you do it. And if you get support from the Group, then we made the experience, that it works easiest with an intern and you simply pay for it. That's legitimate, because I need a lot of performance, otherwise I would have to buy it externally and if I buy it from the company, and pay for it, then - on the one hand I can compare, if it's worth it - and on the other hand, it just creates that compensation, so that also has a tax aspect now. I cannot just use corporate resources, without paying for it, then I have an effect of taxable profit shifting and I cannot do that. So, there are a number of reasons that speak in favor of having clean and transparent contractual relationships and simply paying for the services I receive. Then I have fairness and not this envy or this greed, that eventually arises, between the two parties.

JK: Okay, yes, that's pretty good actually to hear, so for both sides actually.

PG: Yes, for both sides. Sure, I have to pay for it, but on the other hand I get what I have paid for and on the other hand there is no feeling of being exploited.

JK: Yes, yes, that's good, of course. And what would you say is that, so of course, Bosch is of course incredibly diversified or simply present in many different areas, but the general need to really push innovation, so you do not lag behind any competitors? What is the perception here at grow or Bosch?

PG: Well, that also depends on your current company's position. One could imagine that there are companies that do not need that because at the moment they are highly profitable in their core business and also very innovative, that's just in their corporate culture. That's what we said before, if we have an old big company with mature business, then we need something like that.

JK: Alright, yes.

PG: Wasn't this your question before?

JK: Yes, yes, that fits perfectly. Actually, we have already answered that before. But what would you say were or are the most important strategic commitments you had to make to promote the incubator's potential? Now apart from this initial capital or this initial investment in the new premises, because that was already a very high strategic commitment, to just put in around three million euros to first create this space. What else was there or which other strategic commitments were made?

PG: For one thing, from my point of view that starts with the organizational suspension in the whole company. If we do not have the backing of the top management in a company, it cannot work because you will just not get the support of the next level. In my opinion the first most important thing is that you make a decision at the top management level in the company and you always emphasize and affirm this. What a Volkmar Denner does when he occasionally mentions and references the topic grow in his speeches. He shows his commitment and that he stands behind it, that he continues to support it. And that costs nothing. That's just a pure, verbal commitment to it. I think that's extremely important too. Then comes the topic of budget, so a stable, reasonably predictable budget over several years, because we have to remember again that the whole thing takes 5-8 years for a new business, until the whole thing stands on its own legs and becomes profitable. And then things like access to corporate resources. I'm sure if you completely isolate such an incubator and let it run outside, then it will not be able to compete against the free-funded start-ups in the open market because those are still a tad quicker and still have less to consider. So that's why access to corporate resources. Yes, and then this release of corporate policies and rules. Certainly not of all, but of those that strongly influence speed. That would be the four topics I would say require strategic commitment.

JK: OK. I totally see that. Now already the last question. Actually, does the Strategy Paradox by Michael Raynor tell you something?

PG: No, tell me briefly.

JK: Alright, so ultimately, he says that, well, we're making decisions today that seem rational to us, about how the future will evolve, or what's going to drive performance in the future. And of course, for those strategic commitments that you make today you can't say how they will develop. Accordingly, it may well be that you make the wrong commitments, that you invest, for example, in some things that turn out to be unprofitable. And he also says that much of what is now called the wrong strategy is not necessarily the wrong strategy. At the time when these strategic commitments were made it was completely rational. Only because the future has evolved accordingly have they now turned out to be different, or rather false. And he actually says the solution is that you more or less divide the management, that you differentiate by time horizon. One part takes care of the core business, corporate strategy, and the other part deals with promising opportunities and risks for the future, and that's what he would call competitive strategy. Accordingly, would you say that now, for example, grow fits in with this part of competitive strategy and actually, yes, well may not be a straightforward solution to such a strategy paradox, but it does have this separate part of management where one says we are detached from the core business and really deal with possibilities of tomorrow?

PG: Alright, understood. Well we always talked about ambidexterity...

JK: Oh yes.

PG: ... and said, that's this duality of exploration and exploitation. So, in the core business existing business models are pushed cost-efficiently and with high quality, in order to make money. (incomprehensible). And then, on the other hand, I would explore new business models, for which I do not know which ones will reach its destination because of the high degree of uncertainty. That was designed in the concept of grow really early on so that we just did that. For a more or less robust company strategy, we need both, we have an efficient, quality-oriented management in the core business, but really detached from it, with another organization, with other people, this exploration of new business areas, where we also accept a lower success rate.

JK: Yes perfect. As I said, that was the last question. Accordingly, I think I got a lot of very good answers and that makes me really happy. It's really great for me that you've taken your time and I hope that this has not stolen too much of your time now.

9.8 Interview Transcript – Manager DB Intrapreneurs

Held on Thursday, December 5th, 2019, 07:00 WESZ via phone

Present: Jennifer Kuerner (interviewer); Manager DB Intrapreneurs - MDBI (interviewee)

JK: So, first question would be: How did you get the idea to start DB Intrapreneurs at all? Did you have a special trigger? What was the goal you wanted to achieve with the program?

MDBI: The program has been around longer than I am with Deutsche Bahn. I am now accompanying the program since one and a half years. But I know that before the program there was a group-wide initiative that was looked at, a group program: new data-based business models. And it was thought about how you could spread the word about new business, new digital business models. What kind of vehicles are there? And then the Venture Fund was set up, Deutsche Bahn Digital Ventures, an innovation platform beyond1435 - open innovation, the New Horizons department that looks at mobility and logistics in a somewhat further future. They deal with topics like air taxis or hyperloops, whatever.

JK: Super exciting!

MDBI: And then we said okay, Deutsche Bahn also has a lot of employees and therefore a lot of innovation potential in its own ranks. And that's how the intrapreneurship program was launched. Now as a short version.

JK: Yes.

MDBI: So we actually started with the goal of spreading new digital business models.

JK: From your own ranks.

MDBI: From our own ranks, exactly.

JK: And accordingly, you just decided to do it, so you decided to really only accept ideas from employees because the ones from outside were already covered with DB Digital Ventures or others...? So to speak external start-ups were already "supplied" and therefore the internal model, or simply because there is also potential inside and you can also use that?

MDBI: Let's just say that the things we look at externally have a different level of maturity. So the venture fund invests in the start-ups that haven't just been on the market for a day. The solutions are already validated, the technologies are already validated. They are simply further along. And with the intrapreneurship program we are doing two things. On the one hand we start very early in the innovation funnel and on the other hand we have the potential in our own ranks. Then it's just, well, that's my personal experience, because Deutsche Bahn is sometimes very complex. This means that if I want to innovate in passenger transport, if I want to innovate in logistics, if I want to innovate in hinterland transport, then I need domain-specific knowledge. That is central. And if I am not familiar with this, it cannot be covered.

JK: Yeah, right, totally understandable. Alright. And what would you say is the success, or a successful result for the program, so you say ...?

MDBI: How we define success?

JK: Yes, exactly.

MDBI: Very exciting. We actually "only" started with the goal of building start-ups, to build new business models. We will continue to do that. And that's also our goal, and that's where all our energy goes. However, it is becoming more and more apparent that this program is also a very large empowerment tool. Keyword: action-based learning. That means for us it is not a failure when teams leave, which happens often. For us, employee empowerment is also a target variable.

JK: That's right, I read that too. With all the workshop programs you offer.

MDBI: Yes, so the workshops are not pure, of course they are not, so they do not empower to empower. We do workshops to fill the program funnel. This means that there are always people

who have come to us who have said that we would like to participate but have no idea yet. And we try to reflect this in workshops before the program. So together with the people... to inspire them on the one hand, to enable them on the other. Even before they work on the actual idea.

JK: Okay, that's exciting. And how do you deal with risks and uncertainties or how is your attitude towards it? Have you introduced certain mechanisms to keep risks as low as possible?

MDBI: Risks in what context?

JK: Risks with regard to future developments, i.e. how the future develops, in which direction it goes.

MDBI: You mean as Deutsche Bahn?

JK: Yes, exactly.

MDBI: So, I can only speak for the intrapreneurship program and there we just try to be iterative. This means that entrepreneurs or intrapreneurs are not necessarily super risk-aware, but rather moderate in their willingness to take risks. And through iterative, agile, user-centered work, which at the end of the day means: start-up, i.e. experimental learning, we simply try to cut elephants into slices and break down complexity and accordingly minimize risk. That means we don't say somehow, we believe that in 5 years that and that will happen and lock ourselves in and build a solution, but we proceed very user-centered and always try to validate assumptions and work iteratively to minimize risk.

JK: Okay, yeah, that sounds reasonable. And how would you say that with DB Intrapreneurs you managed to create or generate value for the DB as a whole?

MDBI: I think with two things. We are an empowerment tool and part of the digital transformation. This means that people experience new working methods, user-centered work and digital competences and take them back into their everyday lives. That creates spill-over effects. And on the other hand, we have certain criteria that we drive. That means, on the one hand, a digital core. We belong to the department of new digital business models, which means that the digital component is essential for us. Then we only promote teams, so even if only one individual applies, we can help to complement the team. But in principle, we only start with teams. And the program is divided into two phases. The first phase is taken over by our department as far as costs are concerned. And for the second phase, the teams have to find a sponsor, within Deutsche Bahn. This means that we ensure that there is a thematic investor for the model.

JK: Yeah, cool. And how important are the resources and skills of Deutsche Bahn itself for your program now and how are they used by you? So tangible, intangible resources, something like network etc...

MDBI: Super central. What we always articulate very strongly in principle, we do not innovate with an intrapreneurship program on a green field, but you have contextual factors. And you also have to leverage them. You have to identify and play an advantage. Otherwise you have only a "downside". That you have less time, guidelines or something else. That means we also focus on what is the advantage if we address a topic internally, as if it is done by a team that sits somewhere in a co-working space and has nothing to do with us. This means that we use the network in any case with regard to contacts within Deutsche Bahn, but also contacts we have through employees in our respective environment. This is very important because we say okay, we don't develop solutions explicitly for Deutsche Bahn, but they must always include a market perspective. It's simply nice when we say that we talk more quickly with a BVG or we talk more quickly with another energy group, Deutsche Bahn is also an energy group. The topic of networks is central to us. And of course, also financial resources. Because we are such a big company, we have a lot of different outlets. That means, from an external perspective Deutsche Bahn is perhaps the railway and maybe Schenker, that is logistics, but Deutsche Bahn is its own energy group, Deutsche Bahn has a real estate department, has a fleet of vehicles, has whatever,

I also had to learn that first. This means that there are many different ways of driving innovation, and we can address a broad mass of people accordingly.

JK: Okay yes, great. And to what extent does the industry in which the DB operates now also play a role with regard to the necessity of really producing and promoting innovation, so that one does not lag behind the competition and new players move in the market and you stans there and say: oh whoops, now it's over?

MDBI: I wouldn't say that's necessarily industry specific. I don't think anybody can take themselves out and say, well, this is now an industry that is super safe for incumbents, we don't have to do anything about that. That of course has other dynamics in certain industries, so there aren't so many aerospace start-ups, for example, I only know Space X now. But I don't think there is a safe industry there for now. Accordingly, I don't think that the DB is in a unique situation. What we know in general, of course, and we understand this quite well from the example of mobility, is that digital possibilities, or digitalization, allow players to "attack" players like Deutsche Bahn without using large resources or large asset stocks. Flixbus de facto has only one bus, Uber has no car. There is the possibility that players, now industry-independent, will also become competitors relatively asset-light. This may be more difficult in industries where you, I don't know, maybe still need a laboratory or another infrastructure to innovate, but also in the light of incubators, accelerators, i.e. players that make their infrastructure available, this is not a compelling obstacle. I would say that Deutsche Bahn does not have to arm itself in any special way. It has to arm itself but has no distinguishing feature with this.

JK: Okay, yeah, that's a fair answer, it's definitely right.

MDBI: Which of course doesn't make it any easier. It doesn't relativize that. Of course, we are under pressure to act. As I said, we have new players on the market, plus we see how exponential growth is displacing linear growth, that customer expectations are changing accordingly, as you can read in the introduction of every bachelor thesis, that's no novelty. But at the same time, which is also exciting, it naturally changes the way we work. This means that large corporations or employers in general not only have pressure from outside, but also pressure from inside.

JK: Great. So, what were the most important strategic commitments that the DB, or you as a program, had to make in order for the potential of the program to be promoted accordingly, i.e. such things as investments or to create premises, management commitments or such topics?

MDBI: A driver of corporate entrepreneurship is definitely top management support. The fact that the program was initiated at the time by the Group Executive Board naturally made this a very important commitment. However, we treat the program like a small start-up. Means that we didn't get 500 million all at once and they say, well, that should be enough for the next 5 years and if it gets tight, let us know, but the commitment, the successive additional resources we got, we have "earned" ourselves by going into the proof that it is A important, it is B accepted and that C we can do it too. The topic started with two employees, meanwhile we are at 10 or 11. So of course still no huge team, but relatively big growth. Can you briefly say again how exactly you formulated the question?

JK: Yes, the most important strategic commitments you had to make to maximize the potential of DB Intrapreneurs.

MDBI: One commitment is that we ourselves always learn. Initially, the program was the, so the first one and a half years, you had said okay, the first phase is financed by the digitization unit and the venture fund can then invest in the second phase. Now it is the case that the Venture Fund has the search fields mobility and logistics and we also had a lot of ideas, which are also in the area of HR, in the area of building management or whatever. A commitment is, that we have a goal and a vision of driving new business and empowering employees, but at the same time we also keep questioning ourselves, that is to say, what the user himself wants, so we

ourselves are user-centered, and I believe that is a very great commitment that we said we want to really live that ourselves too. So don't just scribble a program on the drawing board and then execute it, but say: hey, if employees have ideas that don't fit into the search field we initially defined, then we have to find other ways. And I think that is a big commitment.

JK: Very well, the next question fits nicely into this, namely how you perceive the innovative ability of the program itself. So what kind of innovation are you pursuing? Is that more incremental or sustaining or do you say, well, we can actually do disruptive innovation?

MDBI: Honestly, I can't really tell you if there is a definition of disruption, I simply don't know. What we are definitely not aiming for is incremental innovation. Or what we say is, we want, let's say, when the team says in the end, that the idea we have has no business model and that doesn't go on with the program, but that finds resonance in a business area and perhaps a new product or part of a new product is created, then of course we are happy, then no one is upset. But that's not our mission. What we are aiming for are cases that have business model potential and are therefore interesting not only for Deutsche Bahn as a customer or as a product, but also for the external market. That is our criterion. To what extent this is automatically incremental is, I believe, a matter of definition, but at least systemically we don't believe we are aiming at an incremental innovation. So I wouldn't automatically say now that every new business model is not an incremental innovation, you can argue about that, but in principle we don't think incrementally versus disruptively, but we think "it has a business model character" and if something is just a new feature, a new product or something, then that's the way it is, that's not relevant.

JK: Okay, yeah, that's reasonable. Accordingly, how would you describe the role of DB Intrapreneurs in relation to other innovation channels, how does that relate to such topics as classical R&D, M&A and strategic investments in external start-ups?

MDBI: I believe I would say that the technology leaps are greater with external start-ups and that other internal vehicles are ideally complementary [to the program]. Or maybe even doing the same thing with more budget and more manpower, but at a different speed.

JK: Okay, yeah, that fits. And what would you say now is the influence of the intrapreneurship program on the overall competitive advantage of Deutsche Bahn? Is it even possible to create a direct link or do you say secondary effect or something like that?

MDBI: Since the program is still very small, I wouldn't presume to say that it has great competition effects or is now the tip of the iceberg. We are in a group of 300,000 employees and in the DB intrapreneur program work 10. In fact, I would say that at the moment it does not have much influence, at least not a really measurable one. We are simply too small for that. But I believe that there are corporations or players who have more resources for that, who have been living that for a longer time and have more experience - so I think in Germany we are relatively far advanced as Deutsche Bahn - but if we take a look at any Google or... (short interruption) So I think that the topic in general definitely brings competitive advantages, but that it doesn't necessarily have to be based on innovation, but it also has effects on the organization and of course also, I think it's good for a company like DB when we say, hey, we do that. We now have a trainee program parallel to the intrapreneurship program, a digital trainee program, which also pays off in terms of employer branding, which also attracts talent. Accordingly, I believe that it has an influence on competition, competitiveness and possibly also competitive advantages. At Deutsche Bahn, due solely to the size and age of the program, I don't think it really has a measurable effect on revenue and things like that. But you can say that, for example, FlixBus are former Deutsche Bahn employees and that this is of course already a definitive competition, who are now most likely to come up in the context of competition with regard to long-distance traffic in Germany and had the program existed perhaps 10 years earlier, or 8 years earlier, it would perhaps have been a Deutsche Bahn product.

JK: Okay, perfect. So, I have two more questions and we're done. One is, does the innovator's dilemma tell you anything?

MDBI: Do I know what that is? Yes yes.

JK: Well perfect, then I don't need to explain it any further. The question would be: would you say that the program, DB Intrapreneurs, contributes to reducing the whole thing for the Deutsche Bahn, i.e. making this innovator's dilemma smaller or more irrelevant if you can go that far?

MDBI: Yeah, so more irrelevant. Again, owed to the size and the side effect, which we have purely due to the size, I would say not 0 or 1, but it successively goes into reducing this. By using the programs, with the methods we use, of course very strongly placing the market perspective and the customer perspective in the foreground and trying not to say that this is the solution and that we know, but what we do is especially in the first phase of the program we really decidedly care about the topic market and customer problem. This means that you don't have to submit an idea to us, but a challenge that you want to address. Accordingly, I believe that this is a way of helping to minimize these innovator's dilemmas, to reduce the risk by focusing very strongly on the market and ideally also by having cross-departmental teams. This means that we give people the opportunity to innovate not only within their department, but also with colleagues from other units. So I don't think there is THE innovator's dilemma for a corporate group, but every unit has its own innovator's dilemma. Accordingly, so I cannot say empirically certain now, but I can imagine that if we innovate across domains, we will contribute to minimizing the innovator's dilemma. So if everyone comes out of their own path of thought, leaves this path dependency, innovates accordingly with other people together, potentially even with external people together - so with us the program is structured in such a way that at least one Deutsche Bahn employee has to be part of the team, but that can be complimented by external people. If I have an idea, or ideally a problem that I want to address and we know each other well, or know each other and you're up for it, then you can join me on the team. Some of our teams are also external.

JK: Okay, I didn't know that yet. Really interesting. Then one more thing and that's, what about the strategy paradox, heard about it already?

MDBI: Um, no.

JK: Okay, so I'll explain this very briefly. It means that today decisions are made about assumptions about what will drive performance in the future and associated with that are strategic commitments that you decide rationally, but which are being made today.

MDBI: Oh, I get it, okay.

JK: That's it. And then there's the fact that this can be wrong, and Michael Raynor suggests as a solution that one should now have a part of the management that takes care of the core business with corporate strategy and a part that deals with possibilities for tomorrow with competitive strategy. In this context, would you say that the Intrapreneurship Program is involved and says, okay, we're going exactly in that direction?

MDBI: So I believe that we will benefit from the fact that once the strategic decision has been made, that we have to take care of new business. That was the only strategic decision that was relevant to us... that we had to look at new business and that people were a key building block in the context. Otherwise, I don't think there is any strategic decision that affects us any further at the moment. I believe that the issue in other strategy areas, i.e. how we expand supra-regionally, or how we change our business model in the direction of whatever, does not affect us. So I think in other areas, when we say we exclude the B2C market, you make decisions that would be the paradox afterwards. So the way I understood it, that the environment is dynamic, then no longer applies, no longer makes sense, and then you virtually run after the old strategy under changed conditions, we are not really affected by that.

JK: Alright, okay. That was the last question. (...)