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MASTER THESIS

Evaluation of business model innovation based on resource relatedness in the context of a major corporation

A case study

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Abstract

Business model innovation promises a sustained competitive advantage. Major corporations are challenged to select and integrate innovative businesses that fit with established operations. This thesis explored ex ante evaluation of business model innovation in a major corporation. It aimed at identifying factors influencing the interplay of old and new businesses. Research was guided by the concept of resource relatedness, which ties changes in firm performance to similarities between diversification efforts and established business operation. A case study in a major tech company provided insights on the business model evaluation process. It included expert interviews, an online survey and a document analysis. Involving people with different roles contributed to a comprehensive evaluation. The conclusion states that resource relatedness involving technology and expertise are less relevant in the corporate context. Other factors such as strategic relatedness and relatedness of revenue structures become more important. A continuous evaluation and adaption of business model innovation throughout the integration process is suggested.

Keywords: *Business model innovation, Major corporations, Diversification, Resource relatedness, Business transformation*

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Index of abbreviations

BM	Business model
BM1	Business Model option 1 ' Standardized Product Kit '
BM2	Business model option 2 ' Custom-Tailored Solution '
BM3	Business model option 3 'Analytics Platform'
BMI	Business model innovation
Capex	Capital expenditures
cf.	confer / compare
CiAMs	City Account Managers
e.g.	exempli gratia / for example
i.e.	id est / that is
MBV	Market-based view
NTS	New Transport Solutions - department within the mobility division
Opex	Operational expenditures
R&D	Research and development
RBV	Resource-based view
RQ	Research question
SCA	Sustained competitive advantage
SIC codes	Standard industrial classification codes
STMS	Smart Traffic Management Solutions - business branch within the Mobility division
USP	Unique selling proposition
VRIO	Acronym for „Valuable", „Rare", „Inimitable" and „Operational"

1 Introduction

„Will this business opportunity fit in with our organization? "– is a question most business managers must consider at some point. A fast-changing market structure and growing competition make diversification indispensable. Diversification comprises business opportunities with a substantial impact on the firm. It involves changes to core elements: the organizational and operational structure. (Ramanujam & Varadarajan, 1989) The goal is to gain at least temporary benefits thereby outperforming other market players. This fundamental business concept is known as a competitive advantage. (Porter, 1985) Business opportunities with innovative elements facilitate a sustained (i.e. not temporary) competitive advantage. The innovative element can either be a new product or service, a modified process or a business model innovation (BMI for short). The latter appears to be most promising in achieving and maintaining a sustained competitive advantage. It involves a combination of at least two business model components that deliver value in a novel way. (Lindgardt, Reeves, Stalk Jr., & Deimler, 2012) Particulars are not that obvious from an external perspective, thus making BMI difficult to imitate. Referring to the fast-changing market structure, a business opportunity involving BMI is especially attractive. Relative to the business model (BM for short) development effort (and compared to efforts for other forms of innovation), the impact may be exceeding.

However, taking a new business opportunity requires careful consideration. Positive effects must be traded off against business risks. Management is under pressure to adopt required changes avoiding any performance loss. The number of possible side effects increases with firm size. Smaller firms are usually characterized by a flexible organizational and operational structure. They can experiment with diversification. In case of failure, it is relatively easy to reverse. This is different in major corporations. A major corporation comprises multiple businesses linked with one another. (Frost & Morner, 2010) The organizational and operational structure are complex and many aspects must be considered (e.g. markets, technologies, competences). Changes may have greater effects, also on other businesses within the corporation. If implementation fails, it likely causes losses in other businesses, too.

Derived from these thoughts, I have formulated a research question. It triggered the research depicted in the further course of this paper. About BMI - the most decisive innovation type-

and major corporations - assuming a complex, difficult to pervade firm configuration - the research question is:

> **„How is business model innovation evaluated using the relatedness concept in the context of a major corporation? "**

To elaborate on the question, I applied it to a practical example. Research was realized in the context of a case study. Research results are supposed to support the case-related decision for or against a BMI and the implementation thereof.

Closely linked to the question of BMI evaluation, is the consideration how to approach implementation. In practice, evaluation is usually followed by a managerial decision for or against BMI. Possible implications must be identified. Management further expects recommendations on how to integrate BMI in the corporate context. Significant differences between old and new business models are assumed. Considerations should ideally draw on insights from BMI evaluation. Keeping in mind BMI evaluation and implementation strongly depend on prevalent conditions, they most likely vary from firm to firm. Research findings are therefore custom to the selected case and may not provide a universal solution. An attempt to generalization and links for future research are presented in the conclusive chapter 5.

1.1 Research goal

The aim of this thesis paper is to explore evaluation criteria for BMI in a corporate context. Research is based on a current case at a major tech company. The name of the company cannot be mentioned for confidentiality reasons. Therefore, we refer only to "MjTechComp" in the following. To further facilitate managerial decision making at MjTechComp, I hope to identify factors that influence the interaction of old and new businesses. These factors could then be applied to other cases of BMI, eventually developing an internal evaluation framework. Firms with similar organizational structures may be able to use given recommendations to develop tailored decision-making models for the implementation of BMI.

Previous research focuses on the emergence of BMI, their configuration and conditions benefiting the development process. (Gassmann, Frankenberger, & Csik, 2014; Lindgardt et al., 2012; Massa & Tucci, 2013) It involves questions such as "How does *a corporation* promote *BMI*?". A simple change of perspective reveals a research gap. Scientific studies examining questions such as "How does *BMI* promote *a corporation*" are less prominent. The evaluation of BMI in a corporate context is not yet sufficiently covered. Innovation impact as part of

diversification efforts is generally measured using performance indicators. (e.g., Ramanujam & Varadarajan, 1989) Ex post measurements of performance changes, however, do not contribute to the decision making prior to implementation. The concept of resource relatedness provides measures that can be applied ex ante (Speckbacher, Neumann, & Hoffmann, 2015). Its predictive quality still lacks empirical confirmation, though. (Franke, 2015; Martin & Eisenhardt, 2010) I will draw on the relatedness concept, exploring key dimensions (i.e. evaluation criteria) in absence of performance figures, that facilitate the decision making prior to BMI implementation. From a theoretical perspective, my work will contribute to the research on BMI in major corporations, advancing contemplations about ex ante evaluation of new innovative business models.

1.2 Paper outline

Insights from a scholarly literature review are synthesized in chapter 2 "Theoretical Framework". The theoretical considerations act as a basis for any further work on the topic. In Chapter 3 "Methodology" the academic approach underlying the research process is described. A delineation of the selected case introduces the practical relevance of the topic in chapter 3.2 "Case description". Research results and derived propositions are presented in chapter 4 "Analysis". Chapter 5 "Conclusion" finishes off the paper. Findings are summarized, put into theoretical context and practical implications are derived.

2 Theoretical Framework

Selected theories, related to the observed phenomenon, are described in this chapter. Linking them, creates a theoretical framework, which is basis and starting point for the imminent research process.

Beginning with the current state of research on BMI, I discovered scholarly literature had dealt very little with BMI evaluation and implications on major corporations. I therefore took a step backwards, searching for related theories dealing with impact factors. Diversification literature provided anchor points dealing with resource relatedness and market-based considerations.

2.1 Theory overview

When approaching the research question, I first need to determine the underlying theoretical concepts. Previous research offers connections for my own work. An overview of linked concepts

contributes to a common understanding of current scientific knowledge on the topic. The concepts presented below are depicted in Figure 1. The theoretical framework outlines the scientific range of subjects and their connection. It aids in organizing my thoughts during the research process. Each theory will be examined closer in the next subchapters.

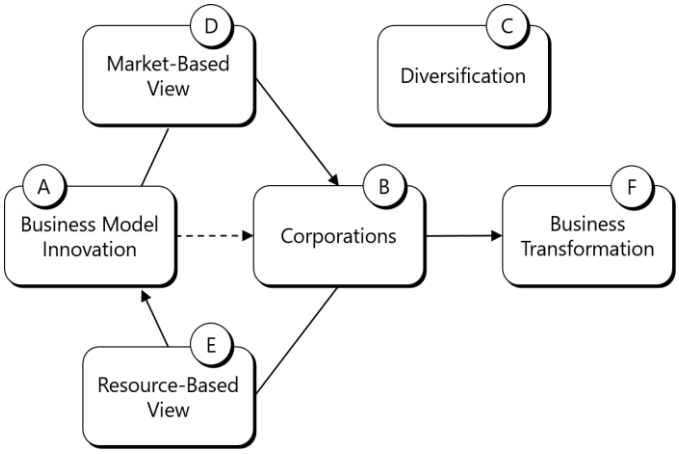

Figure 1: Theoretical framework (own representation)

Foundations are derived from the research question itself. BMI (A) and major corporations (B) are key subjects. The concept of business models must be briefly described, before BMI can be addressed. The complex configuration of corporations must be examined next. Diversification (C) is the overriding concept. It provides strategies for business development. The market-based view (D) represents an external perspective on diversification, while the internal perspective is represented by the resource-based view (E). Literature considers several resource dimensions (e.g. strategic, technology, human resources). A certain degree of relatedness on some of these dimensions is assumed to explain implications of BMI on the corporation. Resource relatedness, however, does not ensure BMI success. This strongly depends on the integration method. Concepts dealing with business transformation (F) due to diversification will round of the scientific reflection.

2.2 Foundations

Starting point for theory development is the idea of a business model. It is used to describe the value proposition for customers from a selected market segment and the business approach and routines behind it. (e.g., Osterwalder, 2004; Teece, 2010; Zott, Amit, & Massa, 2011) It details the cost structure and revenue mechanisms affecting the implementing firm and articulates the strategy to follow in order to gain and sustain a competitive advantage over rivals. (Chesbrough, 2010) The concept is based on management's assumptions about

customers' demands and firm's capabilities to meet these demands. Business models are generic and primarily used in the design phase of business development. They are a helpful tool to run through key aspects and communicate the business idea. (Teece, 2010) Developed from practice, it became popular during new economy beginning 1998. Until today, there is no uniform understanding of a business model and its components. (Müller & Vorbach, 2015) The varying opinions on the composition originate from application in various industries with different levels of complexity. The concept requires consideration from several angles. (Cavalcante, 2014) Business model configurations have been described in several ways. (Müller & Vorbach, 2015) Either in a narrative style (Magretta, 2002), with help of a visual representation (Osterwalder, Pigneur, & Clark, 2010) or as an activity system (Zott & Amit, 2010). The most common framework is the business model canvas by Osterwalder. (Osterwalder et al., 2010) It is characterized by variables describing the value proposition, infrastructure, customers and finances, thereby creating a visual representation of a business model. Another visual approach by the Boston Consulting Group highlights variables for value creation and operation. (Lindgardt et al., 2012) The business model concept is not grounded in any theory and is criticized for its vagueness. Business models try to cover many variables, but the level of abstraction is not consistently determined. Despite the criticism, it is a widely accepted tool for communication business ideas. (Teece, 2010)

In a fast-paced economy with growing competition, a company is required to reconfigure its way of making business in order to maintain a competitive advantage. (Hoyte & Greenwood, 2007; Velu & Stiles, 2013) The reconfiguration of a business model comprises the adjustment or replacement of current business model components including value and monetization. (Lindgardt & Ayers, 2014)This is called business model innovation (BMI for short). (Massa & Tucci, 2013; Zott et al., 2011) The goal is to maintain a competitive advantage and gain market power. Firms focusing solely on serving existing customers, ignoring the need to reconfigure their business model, will probably fail in the long run. (Hoyte & Greenwood, 2007) Like other forms of innovation, BMI may increase product value or lowers costs. (Li & Greenwood, 2004) Other than product, service or technology innovation, BMI does not concern a single innovative aspect, but a combination of at least two business model components that deliver value in a novel way. However, BMI is rarely new. (Lindgardt et al., 2012) Most of the time existing business patterns are adapted (i.e. creative imitation), refined, or combined. Its multi-approach often includes changes invisible from the outside, making it

difficult to duplicate thereby securing a competitive advantage. (Girotra & Netessine, 2014) BMI can help firms break out of a given market situation, leaving competition behind. (Gassmann et al., 2014) It emerges from managerial cognition of required changes. The process often begins informal. (Girotra & Netessine, 2014) A firm can either change its running business model, transforming it into an innovative one, or they develop a BMI initially detached from core business, which then is gradually integrated into the existing business portfolio. Referring to the MjTechComp case study presented in chapter 3.2, I will focus on the latter type. Either way, a gradual transformation from simple to complex changes is suggested. (Chesbrough, 2010) The impact of BMI may be much stronger, than just implementing a single innovative aspect. Chesbrough describes it in the following way: „a mediocre technology pursued within a great business model may be more valuable […] [than] a great technology exploited via a mediocre business model". (Chesbrough, 2010, p. 354)

Bogers et al. differentiate BMI in two stages, where each may implicate certain organizational challenges. The first stage is characterised by an explorative approach with great uncertainty regarding the business model composition. In the subsequent exploitation stage, at least some elements of the business model have been identified and the development is more pointed. A general challenge during the development and implementation of an innovative business model is the struggle for resources and capabilities. (Bogers, Sund, & Villarroel Fernandez, 2016)

A business model framework can be used to delineate innovative changes to a business model. I will use a mixture of the "Business Model Canvas" (Osterwalder et al., 2010) and the Boston Consulting Group framework (Lindgardt et al., 2012) to illustrate BMI developed in the case study in chapter 3.2.

To analyse implications of BMI on a corporation, the specifics of this firm type must be clarified. A corporation is an economic entity with emphasis on planning and decision making. It originates from a permanent linkage of two or more independent businesses. Each business is placed in an organizational unit with a decentralized structure. (Yavitz & Newman, 1982) They are held together by a unified management. Corporate management acts outside operational business. It controls the whole corporation and is responsible for strategic decisions. Besides, there are central functions such as Human Resources and IT services serving all business units. (Frost & Morner, 2010) Corporate management and central functions form the corporate

headquarter with a coordinating function across all business units. (Collis, Young, & Goold, 2007) A corporation aims at exploiting resource potentials and synergies as well as efficient decision making. Business units are provided benefits they could not obtain independently. (Yavitz & Newman, 1982) Advantages of centralized and decentralized firms are combined. Centralization features a uniform appearance and market power as well as exploitation of synergies and economies of scale. Decentralization features a certain degree of flexibility and shorter decision processes including on site knowledge. It reduces communication and coordination efforts. (Frost & Morner, 2010) Corporate management must balance tensions caused by these different objectives, targeting an efficient organization design. (Frost & Morner, 2010)

The thesis title specifies major corporations. Meant are corporations with large-scale business activities and a complex organizational and operational structure. There is no specific definition of the term. It usually includes the biggest firms in a country. Major corporations in Germany include *Volkswagen Group, Daimler AG* and *Allianz*. Major corporations in the Netherlands include *Royal Dutch Shell*, *ING Group* and *Unilever*. (Forbes, 2016) Usually each business unit has its own distinct business model. A corporation is therefore challenged to manage multiple business models possibly with different strategic directions at the same time. Potential competition for resources among businesses may cause a reduced product quality and performance decrease from existing businesses. (Sund, Bogers, Villarroel, & Foss, 2016) It may generally be easier to manage only very few lines of business than competing in several sectors. (D'Aveni, Ravenscraft, & Anderson, 2004)

Like any other firm, a corporation respectively its business units are required to reconfigure their way of making business to maintain a competitive advantage. The internal connections between business units and headquarter complicate any changes due to reconfiguration. Innovation in large corporations has been discussed already back in the 1980's. The basic tenor remained the same over the years: large corporations struggle with the implementation of innovation, but successful integration is key to sustained competitive advantages (e.g., Burgelman, 1984; Dougherty & Hardy, 1996) Particular concerns are the connection with organizational resources, processes and corporate strategy as well as the management of actions related to innovation. (Dougherty & Hardy, 1996) Many corporations are not satisfied with outcome from their innovation effort. (Kuratko, Covin, & Hornsby, 2014) When integrating innovation, a corporation should consider four basic principles: A corporation must determine

which type of innovation is required and fits the current market situation. Management responsibilities must be clear and tasks assigned. The development and integration of innovation must be monitored. Involved individuals require adequate training. Discontent is often caused by disregard of one of these principles. (Kuratko et al., 2014)

Firms innovative behaviour, the recognition of business opportunities and exploitation of something new is led by a corporate innovation strategy. It visionary guides the firm's development path for continual renewal. (Ireland, Covin, & Kuratko, 2009; Kuratko et al., 2014)

2.3 Diversification

When a firm takes a business opportunity, that differs from previous activities (e.g. enter a new market, use a new technology), it extends its range of businesses. This is called diversification. A firm can explore synergies of existing and new businesses through diversification. Excess machine capacity from an established business, for example, could be filled up with tasks from the new business opportunity. While overall revenue increases, costs would not increase proportionally as the new business partially draws on excess capacity. When a firm decides to diversify its business, it will affect the firm's core and may require changes in the organizational structure and operational processes. (Ramanujam & Varadarajan, 1989) A firm's diversification efforts aim at securing a competitive advantage. Reasons are either current market pressure or proactivity. Seasonal capacity variations can be compensated through diversification. The risk of breakdown of a single source of income can be reduced. While costs of operation can be reduced, it enables economies of scope. (Li & Greenwood, 2004) The firms growth rate increases and competition can be attacked in other business areas. (Ramanujam & Varadarajan, 1989) In some cases, however, diversification may inhibit a firm's business development. The extent of related costs is not predictable and overall firm risks increase, due to exploitation of existing resources for example. Diversification is realised inside the corporation most of the time. This is called internal diversification. The outcome is either integrated into the existing organizational structure, or a new organizational unit is created. Sometimes, diversification efforts are separated from the main corporation and lead (partially) autonomous. The implementation depends on the firm's specific internal and external conditions as well as its diversification strategy. In a case study on Xerox, Chesbrough found that they prefer to spin off new ventures, instead of integrating and thus changing their existing business models. (Cavalcante, 2014; Chesbrough, 2002) Apart from internal growth,

diversification can also arise from acquisition. Hence, it is called external diversification. The corporation may buy an innovation project or support other firms working on innovative products. This is often done with start-ups. The corporation can alternatively join forces with other established firms. (Kuratko et al., 2014)

A firm's coordination mechanisms must be adapted, when planning to diversify. In an innovative setting the principle of mutual adjustment applies. (Mintzberg, 1980) Instead of following a set of standardized processes, people involved with diversification are required to make decisions based on their individual cognition. (Pehrsson, 2006b) The internal as well as the external perspective on the firm must be taken into consideration. (Makhija, 2003) External conditions including customers, markets and competition may have an influence on the development of for example BMI. Internal conditions such as technologies used, organizational structure or strategic direction matter most when it comes to integrating BMI or any other diversification outcome. (Ramanujam & Varadarajan, 1989)

Diversification is called related, when there are similarities between the established and new business. This could be for example a technology already employed or a market the firm is already serving. If the new business opportunity does not show any similarities with the established businesses, thus being new to the firm, diversification is called unrelated. (Ramanujam & Varadarajan, 1989) Diversification within the same industry is usually related, as the new business shares characteristics with the prevalent businesses. (Li & Greenwood, 2004) Related diversification generally outperforms other forms of diversification due to economies of scope implying shared resources, activities and core capabilities. (Li & Greenwood, 2004; Mackey, Barney, & Dotson, 2015) Diversification can shape markets. When several firms choose to diversify into related niches, a new market structuration evolves. This increases effectiveness for firms involved. (Li & Greenwood, 2004)

Managers need to know whether diversification contributes to the overall business success. Controlling and possible adjustments depend on operating numbers. Measuring firm performance before and after the diversification shows any changes linked to the implementation. Performance is the most used indicator for diversification success. (e.g., Franke, 2015; Pehrsson, 2006b, 2006a; Simmonds, 1990) Firm performance is measured ex post. There is a time delay between action - the managerial decision to diversify -, implementation and diversification impact on performance. It therefore appears to be an inappropriate basis for decision-making ex ante to implementation. The theoretical perception

does not prove itself in practice. Management requires other measures to evaluate potentials of BMI. (Cavalcante, 2014; Markides & Williamson Insead, 1996) There are no hard rules for a diversification decision. It depends on the corporation's individual position. Previous research in major corporations has mainly remained on the corporate level, analysing the overall performance impact of related diversification. (Mackey et al., 2015; Markides & Williamson, 1994; Schoar, 2002) Diverging results can be explained by the variety of measures in various industries as well as the different evaluation approaches used. Evaluating performance impact on a corporate level, however, insufficiently covers the impact on a business unit level. A finer level of detail is therefore required to understand the influence of related diversification on both - the organizational and operational dimension of a corporation. (D'Aveni et al., 2004)
Two perspectives need to be considered for evaluation of an opportunity to diversify: An internal perspective on the corporation itself, as well as an external perspective on the markets the corporation is active on. Internal perspective includes firm characteristics such as prevalent technologies and expertise. Current performance developments are also taken into consideration. This helps to decide whether BMI can be implemented. In case the corporation's status quo does not allow implementation, changes to the corporation (e.g. gaining knowledge about new technologies) must be considered. The external view focuses on market condition and general environmental developments, that may influence diversification respectively the configuration of a BMI. If the market features high competition, the pricing strategy of the business model under development must be chosen accordingly. (Ramanujam & Varadarajan, 1989) The internal and external perspective are interconnected, which makes it difficult to identify single aspects influencing firm performance. Their relationship and dependencies remain vague. (Makhija, 2003) They are covered in distinct research streams. While the internal perspective on diversification is dealt with in the resources-based view (RBV for short), the external perspective is covered in the market-based view (MBV for short).

Market-based view

Porter first chose the market perspective, explaining performance variations among firms with varying industry characteristics. (Porter, 1979b) His work laid the foundation of the later labelled market-based view. (Makhija, 2003) Srivastava distinguishes two types of market-based assets and capabilities: Relational and intellectual. (Srivastava, Fahey, & Christensen, 2001) Relational assets are linked to external stakeholders. Derived from Porter's five forces

theory they are composed of customers, channels, strategic partners, suppliers and network relationships. (Porter, 1979a) Intellectual assets comprise internal capabilities and knowledge about the market. This may be knowledge about relationships, processes and customer communication, but also capabilities for sensing market opportunities, the capability of linking customer with related concerns and identifying emerging technology trends. (Day, 1994) Intellectual assets take on a mediating role between internal processes and external environment. While intellectual assets are under full control of the corporation, there may be uncertainty about relational assets. (Srivastava et al., 2001) Comparing market-based capabilities of old and new businesses may allow assumptions about future performance developments. Similarities between for example customer management capabilities and supply chain management capabilities could ease BMI implementation. (Makhija, 2003; Ramaswami, Srivastava, & Bhargava, 2009) My literature search did not provide any studies investigating impact of MBV relatedness on BMI success. Nonetheless, MBV considerations are an essential part of any BM evaluation.

Resource-based view and resource relatedness

A corporation is composed of various resources, required to do business. At some point resource availability will deviate from production capacity. Assuming a positive supply, a surplus of certain resources is created. (Penrose, 1963) In case of resource excess, a firm should consider exploiting these resources in some other way, i.e. identifying opportunities for internal diversification. (Li & Greenwood, 2004) RBV is the inward focused perspective on firm resources. (Barney, 1991) It points out firm assets leading to competitive advantages. These assets should be shared among businesses in order to increase performance and sustain superior compared to competitors. (Markides & Williamson Insead, 1996) The RBV tends to have a stronger impact on managerial decision making than MBV. (Makhija, 2003)

Firm resources comprise all assets, capabilities, organizational processes, firm attributes, information and knowledge of a firm, which enable them to implement a strategy. Excluded are resources, that do not contribute to firms strategy implementation or even hinder it. (Barney, 1991) Some resources are tangible, others are intangible. They are used to operate a business, thereby increasing firm's efficiency and effectiveness. Resources, that are more valuable compared against competitors' resources, generate a competitive advantage. Intangible assets are often more valuable in creating a sustained competitive advantage (SCA).

(Makhija, 2003) Resources are usually categorized as followed: Physical resources (e.g. raw materials and machines), financial resources (e.g. capital and company shares), human capital (e.g. engineers and sales representatives), technological resources (e.g. technology knowledge and patents), organizational resources (e.g. specialized units and firm location) and relational resources (e.g. suppliers and advocacy groups). (Weiss, 2013)

To create a competitive advantage, resources must have VRIO characteristics. The acronym stands for „Valuable", „Rare", „Inimitable" and „Operational". Valuable resources can be used to exploit business opportunities or neutralize threats. They should not be available to many firms. This is labelled rare. If other firms are unable to obtain these or similar resources, they are inimitable or non-substitutable. Lastly, resources must fit into the firm's production process, which is called „organizable ". Although management capabilities may not have any of these characteristics, they are needed to identify and develop SCA. *SCA* cannot be bought. It must be found and developed from the existing resources of a firm. (Barney, 1991)

Resource exploitation enables internal diversification. (Weiss, 2013) Resource "transferability" measures if a transfer of excess resources to a new business opportunity is possible. This usually leads to lower overall costs and reduces risks of entry. Besides transferability, new and existing resources can be combined leading to operational synergies. (Li & Greenwood, 2004) Resource "complementary" measures, if the resource combination through diversification adds any value. (Speckbacher et al., 2015)

The underlying assumption of diversification is, that related diversification outperforms unrelated diversification. Since related diversification allows the exploitation of resource synergies, it is believed to generate a greater competitive advantage than unrelated diversification. (Markides & Williamson, 1994; Weiss, 2013) The concept of resource relatedness is a central theory in diversification literature. (e.g., Franke, 2015; Ramanujam & Varadarajan, 1989) It describes commonalities between resources. The evaluation of resources relatedness between established businesses and new business opportunities facilitates the managerial decision making. (Speckbacher et al., 2015) Regarding the case under consideration, evaluating resource relatedness will facilitate the decision to integrate BMI.

If new and prevalent businesses have nothing in common, the unknown business may bear greater risks. These opportunities should usually be refused. If new and prevalent businesses are related, i.e. they share commonalities, the opportunity is likely to create a competitive advantage. The opportunity should therefore be taken. However, if businesses are very similar,

required resources may be deducted from one business to support the other one. Business performance may decrease, which is opposite to the indented outcome. Literature does not propose an optimum degree of relatedness, as it depends on the selected dimension. (Pehrsson, 2006b) No general rules apply. Besides facilitating the decision, which business to enter, it can also help with the upcoming question of how to enter a new business. Resource relatedness is utilized in the entry phase of a new business, when resources and capabilities need to be transferred to a new business. Less obvious is the application of the relatedness concept in the implementation phase. Thereby existing and new resources are linked, exploiting synergies for everyday operations. (Speckbacher et al., 2015) Relatedness between two resources may increase, when the firm finds new ways to utilize the resource combination in the new business setting. (Li & Greenwood, 2004) The considered resources must have some of the above mentioned VRIO characteristics, to have an impact on diversification success. General relatedness of resources may not lead to diversification success. (Markides & Williamson, 1994)

Relatedness is a multidimensional construct, comprising commonalities of multiple types of resources. (Pehrsson, 2006b) Resource dimensions are for example: managerial relatedness (D'Aveni et al., 2004), technological relatedness (Pehrsson, 2006b), strategic relatedness (Tsai, 2000), product relatedness (Stimpert & Duhaime, 1997), organizational relatedness (Tsai, 2000), human relatedness (Neffke & Henning, 2013) and marketing relatedness (Markides & Williamson, 1994). Depending on firm configuration and external conditions, different dimension may be useful for evaluating the relatedness of a new business opportunity. Also, different indicators for measuring relatedness might be available. For example managerial relatedness could be measured using R&D expenses, overall expenditures or value chain shares. (Weiss, 2013) There is no definite set of resource dimensions, nor operational indicators to be applied in any firm context. This explains variations among previous studies on resource relatedness. A focus has been set on intangible assets, processes and strategies, as they are much more complex and difficult to compare than tangible assets. (Weiss, 2013)

Managerial capabilities appear to be the most valuable. They are required to facilitate the use of any other resource. Firm performance does not solely depend on best resource selection, but on how these resources are most efficiently managed. (Sirmon & Hitt, 2009; Weiss, 2013)

Measuring relatedness requires an evaluation pattern. However, it cannot be determined for all types of businesses and all industries. Evaluation depends on firm's individual framework

conditions. A comparison of standard industrial classification codes (SIC codes for short) appears to be an appropriate measure. It provides a classification scheme for different industry branches and sectors. Comparison of SIC codes, however, leads to insignificant scientific results regarding potential synergies between old and new businesses. Comparing resource relatedness appears to be much better suited (D'Aveni et al., 2004). While research on relatedness was mainly based on data comparison in the past, managerial judgment became the main evaluation method in recent years. (Weiss, 2013) This reflects the actual measurement of relatedness in practice. Management is required to develop individual evaluation pattern for the comparison of new and established businesses. Every evaluation of relatedness is therefore somewhat subjectively shaped. The measurement of relatedness thus is a measure of perceived relatedness. The way managers perceive relatedness influences the development of business strategies and performance developments. Perception may be shaped by experiences but also uncertainties. Beyond evaluation, experiences and uncertainties may influence strategy development. On the other hand, research has shown that managers from different firms acting in the same industries share a common understanding of resource relatedness. (Pehrsson, 2006b) This concludes managers tend to know their core markets and how to act in these markets. Uncertainty still exists about external influences on relatedness measurements, such as strong competition or overall economic developments.

2.4 Business transformation

The process of changing a firm's current configuration in order to meet a strategic ideality is called business transformation. (Hoyte & Greenwood, 2007) The integration of BMI in a corporate context also requires configuration changes. (Sund et al., 2016) These should be aligned along three organizational axis to form a coherent change program: A top-down allignment sets the general orientation for business transformation and preparation of the process. A bottom-up allignment aims at individuals, getting them on board for the change process and improving their performance. A cross-functional allignment considers exisiting processes and functions and their redesign. (Dichter, Gagnon, & Alexander, 1993) BMI is often hampered due to organizational inertia. This concerns particularly established corporations. It causes tensions that need to be resolved for a successful integration. (Sund et al., 2016)

Transformation can only be as successful as the underlying business conditions allow. If core elements such as business strategy and structure remain faulty, business transformation will

not create the desired results. (Dichter et al., 1993) It requires a leader with managerial responsibility, who drives and facilitates changes. Without management attention, the process will most likely lose focus and miss its intended goals. (Dichter et al., 1993; Hoyte & Greenwood, 2007) A qualified transformation manager facilitates the integration process by providing resources and eliminating any interfering issues. If the manager responsible, however, does not endorse the project, it will hinder any change attempt. A "man of action" is required, who is concerned with changes on an operational level, proposes approaches to problems and stays on top of the transformation process. (Müller & Vorbach, 2015) The establishment of a change culture helps to win over employees and motivate them. (Gassmann et al., 2014) Research has shown this is a very important aspect to consider for successful transformation. (Müller & Vorbach, 2015) Employees should be involved in the process. If there are, however, too many individual opinions on what and how to change the current business configuration, the transformation may turn into collection of unrelated initiatives condemned to failure. (Dichter et al., 1993) In order to reduce organizational tensions, furthermore, dedicated resources and training for employees are required. (Hoyte & Greenwood, 2007) The ex ante evaluation of BMI requires dynamic capabilities. Dynamic capabilities summarize a firm's ability to transform itself, surviving on the market by adapting to a fast-changing environment. They comprise sensing and seizing of business opportunities, as well as reconfiguring the organization regarding new business opportunities. (e.g., Cavalcante, 2014; Müller & Vorbach, 2015; Teece, Pisano, & Shuen, 1997) Dynamic capabilities facilitate firm's flexibility regarding internal and external changes induced by the new business model. In addition to the capabilities highlighted above, some others are: management of risks and learning from errors, planning and preparation of changes, a network of external partnerships, adaptable internal processes. (Müller & Vorbach, 2015)

Cavalcante proposed design process for changing a business model. (Cavalcante, 2014) First, the corporation needs to identify its central components and related business processes. Next, the change initiatives and required changes need to be defined. Change induced challenges and how to address these are determined last. With slight modification, this approach can also be applied to change initiated by BMI. New and existing business models are compared first. The comparison is based on resource relatedness. Next, possible implications are weighed and change actions suggested. Lastly, the impact of these changes is assessed, thus preparing the managerial decision whether to embrace the BMI. Research has not yet agreed on whether

changes to the business model should be implemented in small steps or bigger chunks. (Cavalcante, 2014) Single change initiatives, however, most likely will not increase firm performance significantly. (Dichter et al., 1993) It probably depends on concrete corporate circumstances, though. Business transformation is not a one-off action. The adaptation of business models happens during operation over time. Changes are determined in strategic meetings. (Müller & Vorbach, 2015) The ex ante evaluation of BMI implication requires planning and designing of the business transformation process. Tools available either focus on the internal perspective (e.g. Total Quality Management), or on the external perspective (e.g. scenario analysis). There seems to be a lack of tools specifically for BMI induced changes. (Cavalcante, 2014; Sund et al., 2016)

BMI integration may cause tensions between old and new businesses. Management must understand these tensions and protect the BMI. A key part of the transformation process is therefore finding the right organizational design. (Sund et al., 2016) A corporation should experiment with possible organisational designs. If a firm decides to create new business unit, unexpected side effects may cause this business unit not to fit into the existing corporate structure. The organisational design should be a business model component itself, as it contributes to BMI's success. There is a constant balancing act of integration and separation strategies. The new business may benefit from proximity to the headquarters, but at the same time, it needs a certain distance to the corporate core in order to experiment and exploit its possibilities. (Sund et al., 2016) Markides calls this an ambidextrous organisational infrastructure. (Markides & Charitou, 2004)

The organizational design for the integration of BMI in a corproate context depends on the operational relatedness and strategic importance. If old and new business are strongly related, and strategic importance is very high, the new business should be integrated directly. On the other hand, if businesses are operational unrelated and new business is strategically unimportant, it will probably outsourced into a spin off. Seven more nuances in between these two extremes were proposed by Burgleman. (Burgelman, 1984) Considering BMI's alignment with customer demands, a decentralized integration is probably better suited. (Capgemini Consulting, 2010; Müller & Vorbach, 2015) Siggelkow suggests a temporary organizational division leading to performance increase. Transformation is characterized by an explorative phase and an elaborative phase, which according to Siggelkow benefit from different

organizational structures. (Siggelkow & Levinthal, 2003) BMI development should thus involve a temporary change in practices exploring successful configurations.

3 Methodology

This chapter describes the methodology underlying the research process. The goal is to present a clear framework, which guides data collection and evaluation.

Following an explorative approach, a case study was found to be the appropriate research method. I describe how data collection, consisting of a document analysis, interviews and an online-survey, was conducted and how outcomes were analysed.

3.1 Research method

To sufficiently elaborate on the topic at hand, a research method must be determined. It describes the scientific approach to answering the research question. Certain methods may be more appropriate depending on the circumstances. (Limburg & Otten, 2011)

My initial search on scholarly literature showed little coverage of business model evaluation in major corporations. I decided to follow a qualitative approach to research, where I studied the issue at hand in its natural environment. This seemed reasonable considering the explicit mentioning of a corporate context. Experimental measurements within the scope of a quantitative study would most likely not have led to a satisfactory explanation. My approach was explorative. (Blumberg, Cooper, & Schindler, 2014) While it may not lead to a definite answer to the research question, the outcome encourages discussion and provides new angles for future research. (Labaree, 2017)

The evaluation of new business models is a contemporary challenge. Practitioners are keen to identify factors relevant to BM evaluation. In addition to my neutral stance as a researcher, I incorporated my own observations and experiences of an evaluation process. I engaged myself in BM development, which laid foundation for the later BM evaluation. The research was carried out in solution-driven manner comparable to action research (McNiff, 2014), rather than pure testing of theories.

I chose the case study method to guide my research. Case studies are used, when the research goal is to understand a complex social phenomena, while its characteristics and real-life context remain the same. (Yin, 2009) I could test existing theories on resource relatedness for practical applicability. A variety of data inputs and a certain complexity given the corporate

context were expected. The case study method offered an in-depth look into BM evaluation. The nebulous issue was made researchable by focusing on a clear defined case. The outcome was uncertain, though. Data analysis may have pointed into a much different direction. Although no quantitative data was produced, results are nonetheless valuable to both, practice and science. (Shuttleworth, 2008) Generalizability is, however, questionable. Insights may be applicable to major corporations with a similar organizational and operational setup, but should be tested within other contexts. Besides its academic audience, this thesis targeted managerial decision makers. The practical oriented audience was expected to prefer insights presented in a story-like manner (i.e. case study) rather than pure statistical evaluation.

3.2 Case description

Case selection was obvious, as I was offered to attend a mobility project at MjTechComp. MjTechComp is a major corporation. The conglomerate is mainly operating in the fields of electrification, automation and digitalization. MjTechComp employs around 351,000 people in more than 200 countries. (MjTechComp, 2017) The generated revenue amounted to €79.6 billion in 2016. (MjTechComp, 2016a) Working on a case study at MjTechComp provided unique insights into a real-life development process and corporate decision making behind it. The mobility project was called *Advanced Parking Management* (APM for short). It involved overhead parking spot sensors and associated service offerings. I followed the project for six months, while working on this thesis. The APM project represents a typical case of BM development at MjTechComp. I consider it specific to major corporations, though.

APM project description

Most drivers are familiar with the shortage of available parking spaces in urban areas. The search for a free spot is often frustrating. Once a car has been parked, drivers rather not leave again. The search for parking spots is assumed to constitute about one third of the inner-city traffic. It causes traffic jams, noise and carbon emission, thereby negatively affecting urban traffic and environment. (MjTechComp, 2016b)

Public parking is an important topic for municipalities. They deal with an increasing number of drivers seeking for parking and shortage of space in urban areas. To reach their traffic and environmental goals, municipalities are required to plan and manage their parking spaces. Public parking generates additional revenues for the municipality. Corporations and residents also profit from parking management. While corporations benefit from nearby parking spaces

for their customers, the reinvest of parking revenues into other city improvement projects attracts new residents. "Availability" and "prices" influence the choice of transportation of inhabitants and visitors. These variables can be used as control mechanisms for traffic management. (Hetz & Zwick, 2015; MjTechComp, 2016d)

Several innovative parking solutions have been developed in recent years. They all focus on reducing the number of vehicles searching for parking spots. Online maps inform drivers about location and prices of public and private parking spaces world-wide. Other applications allow users to publish available rental options. Concepts forecasting availability using sensors integrated in cars and floating car data are currently being tested. These solutions, however, are prone to external changes, distorting their validity (e.g. construction zones, traffic redirections, weather). Real-time information on parking availability may be a better approach. It does not solve the issue of parking space scarcity, though. Current projects concentrate parking guidance based on infrared or magnetic field ground sensors. Sensors are integrated in the public infrastructure, transferring continuous information about parking occupancy. (Hetz & Zwick, 2015)

MjTechComp has seized this business opportunity. The Mobility division currently develops a smart parking solution named Advanced Parking Management. They use radar overhead sensors, setting their project apart from others (see Figure 2). Core element of the solution is a sensor network, reporting parking occupancy to a central traffic management control centre. Third-party software applications can access real-time data as well as historical data from the control centre. It enables journey planning and reliable routing of drivers to the next available parking spot. (MjTechComp, 2016b)

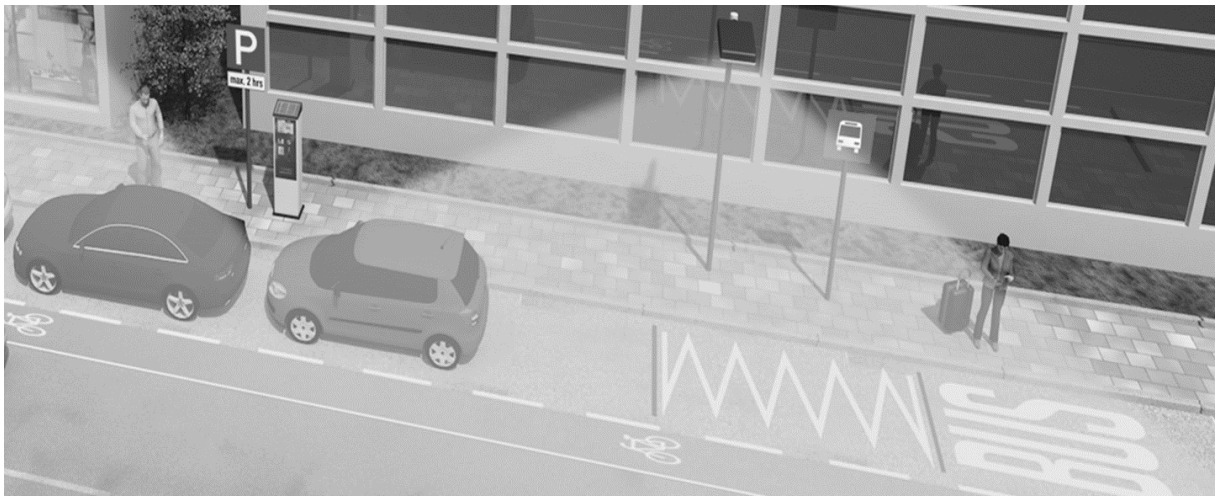

Figure 2: Parking space surveillance with overhead sensors (source: MjTechComp)

The traffic management software recognizes recurring patterns in parking occupancy, e.g. due to early morning or weekend traffic. Routing applications can therefore take into account forecast information, guiding the driver to areas with a greater chance of free parking spots. Search times can be reduced. If drivers are informed about parking space scarcity in their target area before setting off, they can even choose to change their mode of transportation. Occupancy information enable effective planning and management of parking spaces. Generated data allow statements about supply and demand of parking. They are the basis for determining maximum parking duration and pricing. Varying parking fees could be set for different times and different groups of users. Concerns about data privacy do not apply to radar sensors, as they recognize vehicles, but do not identify them. The MjTechComp radar sensors can furthermore detect parking violation, e.g. blocking of gateways or bicycle lanes. By mapping the number of cars parked in an area with information from the payment system, the APM software identifies potential bilking of parking fees in real-time. Efficiency and effectiveness of parking enforcement officers increases through software support, which in turn improves driver's payment morale. In combination with an RFID-Chip, MjTechComp's APM solution can be used to detect vehicles with specific permissions, e.g. residents, disabled person, electric vehicles or car-sharing fleets. (MjTechComp, 2016b, 2016f, 2016h) The list of applications of the APM solution is extensive. An overview is given in chapter 4.2 (see Figure 10).

The overhead sensor modules are mounted to street light poles. Installation and calibration are relatively easy. Costs can be kept at a minimum, when combined with street light maintenance. Major roadworks is not necessary, if a steady power supply is available. The high up attachment reduces risks of damage, e.g. due to vandalism. Extreme weather, such as fog, rain, changing light conditions or snow, do not affect sensor operation. The robust construction assures high availability. (MjTechComp, 2016b)

MjTechComp's APM solution is currently running small scale projects in several cities worldwide (e.g. Berlin, Munich, Paris, Budapest, Shenzen, Dubai). Initial results are promising. (MjTechComp, 2016f) MjTechComp presents an innovative approach to the reduction of parking pressure in urban areas. APM currently includes a hardware-software combination. Figure 3 shows the radar sensor for overhead mounting and a screenshot from the administration software.

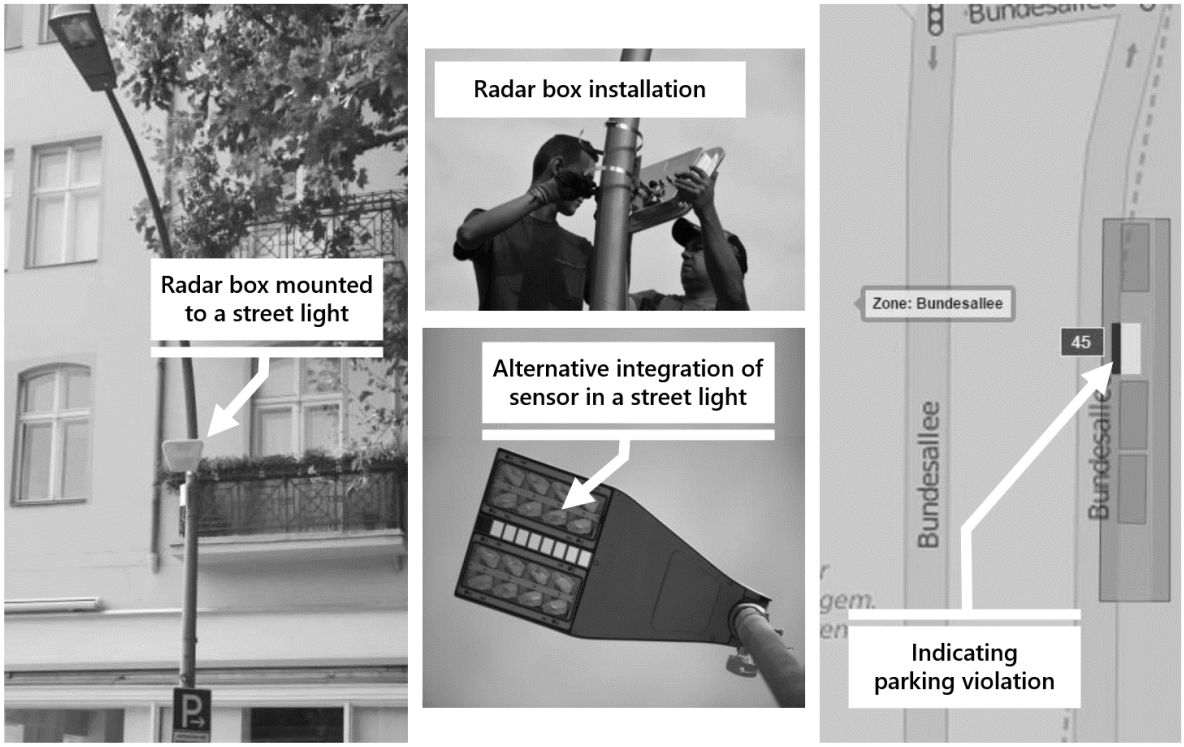

Figure 3: Radar sensor and administrative user interface (source: MjTechComp)

Although parts of the software application are still under development, the overall APM solution is ready for market-entry. APM currently runs within an organizational unit focusing on the development of innovative mobility-related projects. Upon market maturity, APM will most likely have to move to an operating business unit within the MjTechComp corporation. The organizational affiliation depends on the business model used to market APM.

Business model development process

During my time at MjTechComp, I had the chance to actively participate in the process of BM development for the APM sensor technology. Although this was not part of my actual research interest, it was essential for my following work on the topic. Before I could evaluate any BM in the context of a major corporations, that innovative BM needed to be specified. Since this was an essential part of my experience at MjTechComp and took up a large part of my time there, I will describe the development in a little more detail.

I was an active member of the APM project team for the period of BM development. The iterative design process happened on the operational level. Interim results were presented to middle management. After several feedback loops with stakeholders and corresponding adjustments, three innovative business model options were later presented to upper management.

We started by gathering information on the APM project, mapping out the status quo. Information were grouped by sensor technology, parking portfolio elements and potential markets. This helped to get a common understanding on the wide range of possible business applications. We then analysed 30 present and past tenders concerning smart parking management. Although the method of analysis did not qualify for scientific correctness, we gained some insights on what type of business offer had been requested. Tender selection was based on data availability. However, we tried to cover a mixture of small to large volume projects worldwide. Among those were parking tenders in Miami, Copenhagen and Minsk, as well as running projects in Dubai, Berlin and Budapest. We defined criteria for grouping tenders, such as requested technology and additional services, budget and project size. Based on these, we could derive three potential business offerings:

- a "*basic*" package centred around hardware sales for smaller projects,
- a "*full service*" offering including additional data analysis and software applications for parking management,
- an "*individual solution*", aimed at customers with complex requirements about linking other smart city applications.

The tender analysis gave us an understanding of current market demands. However, it lacked a certain foresight. The three potential business offerings were therefore further developed and refined. They laid foundation for the later business model options.

A business model framework was used to elaborate on the different business options (see Figure 4, Figure 5 and Figure 6). It was based on the business model canvas by Osterwalder (Osterwalder et al., 2010) and the Boston Consulting Group framework (Lindgardt et al., 2012). Besides value proposition and unique selling point, it covered internal aspects (sales process, resources, cost structure and revenue streams) as well as external aspects (market requirements, customers, competition, partners). The framework helped to work out the differences between the business options.

Stimulated by some conversations with internal sales representatives, we put an emphasis on revenue streams. Each business model option is characterized by a distinct revenue model. All other internal and external aspects relevant to the business model are geared to these revenue streams. The three business model options are arranged on a demand timeline. Their degree of innovativeness varies from past, over present to future demands on parking management. Innovativeness also varies regarding the business models prevalent at MjTechComp.

To further validate the business model options, we then calculated business cases. Business case calculation is an important tool for managerial decision making. The information from tender analysis were helpful for adding real key figures to business case assumptions. Costs for products, software and services were mapped against customer demands. The calculation identified APM software development to be a cost-pusher, which must be addressed in further business development.

Equipped with tender analysis, business model descriptions and business case calculations, we presented our working results to middle management. The mainly positive feedback shaped our further elaboration. At the same time, it laid foundation for my subsequent scientific evaluation of BMs.

Innovative Business model options

Three business model options were developed during my participation in the APM project. I used them at interviews and in the online-survey to learn about evaluation criteria for innovative business models. Evaluation works with any number of BM options. The three selected options, however, stood out and were distinct from each other. I assumed a greater number of BM options could overwhelm respondents.

Key facts of each business model option are summarized in figures below. The representation is based on existing business model visualizations. The top row of each figure is market oriented. It summarizes external aspects relevant to the business model. The middle row summarizes the essence. The value proposition is directed towards potential customers, the USP differentiates from competition and challenges address MjTechComp management. Internal aspects are covered in the bottom row. These figures do not claim completeness but give first impression of each business model explained. They were used to present BM options to upper and middle management as well as during research interviews.

The first business model option *"Standardized Product Kit"* (BM1 for short) could be implemented almost immediately. It is based on existing technology. MjTechComp sensors have successfully been tested and are ready for market introduction. Business is very much centred around selling sensors. To emphasize the selling approach, we introduced the idea of a catalogue order process. Customers can choose from a catalogue of predefined and standardized product offerings for cost-effective parking management. Predefined and standardized imply a waiver of any customization. This keeps product costs relatively low and

enables MjTechComp to compete on price. BM1 could be applied to markets requesting low price or quick implementation offerings. It is suitable for small volume projects with short duration (approx. less than three years). Potential customers are municipalities testing out smart parking on a small scale. Besides it targets parking operators with an existing parking management system seeking to extend their surveillance. Since APM will not compete with low price technology, it aims for customers with high quality requirements towards their parking management. Potential business competition are companies focusing on selling sensor technology, such as *Worldsensing*, *Fastprk* and *Urbiotica*. Project partners are required to meet customers' demand. Local firms will take care of installation and support services. Since the product offering is catalogue based and does not include any customization, the product range is extendable. Alternative hardware solutions, such as camera detection from other hardware suppliers, can be included. If in certain cases a customer requests the integration of sensor technology into an existing surveillance system, MjTechComp will collaborate with integration partners with essential IT infrastructure knowledge. Taking an internal perspective, the BM1 approach allows for larger production volumes, thus enabling economies of scale. Costs are composed of hardware production and firmware development (basic software components). As mentioned at the beginning, BM1 focus' is set on plain selling. Revenues are realized with one-time sales of sensors. This is possible due to the relatively low-price strategy. Complex financing options, for example leasing products, are not applicable. The pricing pressure also affects sales. During the product testing phase tendering may have involved a lot of coordination effort. BM1 requires an economic sales process. The unique selling propositions (USP for short) underlying BM1 are APM's long sensor life-time as well as the one-time installation with very little to no maintenance work required. Both suit the cost-effective notion. Cost-effectiveness is also the main management challenge for BM1. Cost-drivers in the offered hardware and appendant software should be cut down to the lowest possible. Also, sales forces must be streamlined accordingly. Figure 4 summarizes the important aspects of this business model option.

Figure 4: Business model option no. 1 "Standardized Product Kit" (own representation)

Business model option 2 *"Custom-Tailored Solution"* (BM2 for short) is based on current demand. A tender analysis showed an increasing number of requests for individual parking management solutions. BM2 comprises a custom-tailored product-service offering, which addresses customer's existing traffic management strategies. The focus lays on professional advice and service offerings matching the local conditions. The sensor based range of services is still work in progress and account representatives are not yet qualified for advising customers. Implementation of BM2 therefore needs some lead time. The business model addresses a demand for turnkey and full-service (detection, payment and enforcement) offerings. This concerns large volume and long-time projects. Potential customers are mainly public authorities. Their large projects are characterized by varying conditions indicating high complexity. MjTechComp must compete for these projects with other major corporations. A strategic selection of suppliers extends the MjTechComp product offering, which further increases the possibilities for a custom-tailored solution. Service offerings such as technical support and enforcement handling are realized with local partners. Partnering is key in this business model, as customization will most likely exceed MjTechComp's capabilities. In view of resource availability, BM2 requires additional consultation as well as implementation expertise. A common request in current tenders is the integration of parking sensors in an existing IT infrastructure. Implementation expertise must therefore include especially IT development skills. The sales process for BM2 cannot be planned. It must be adapted for each specific case and requires expertise input prior to singing of a contract. It makes sense to include standardized product offerings, when possible. This levels down overall costs.

Hardware margins are generally low. Main cost driver are customization of software solutions and consultation efforts. Due to large project size, there is also a large project management overhead, that needs to be considered. The striking difference between BM1 and BM2 is their revenue structure. While BM1 exclusively offers one-time-sales, BM2 offers several payment options, depending on customer's circumstances: Leasing, pay per service request and revenue sharing for example. MjTechComp can offer financing solutions, thus creating an additional revenue stream from capital costs within BM2. The availability of financial services represents a true USP. Furthermore, MjTechComp has broad experiences with large and complex projects. Sensor durability is also an USP. To successfully implement BM2, MjTechComp management needs to pay attention to some associated issues: The increased project management efforts due to project complexity, importance of partner management (e.g. Public-Private-Partnerships) and the strength of internal financing offers. Key aspects of BM2 are summarized in Figure 5.

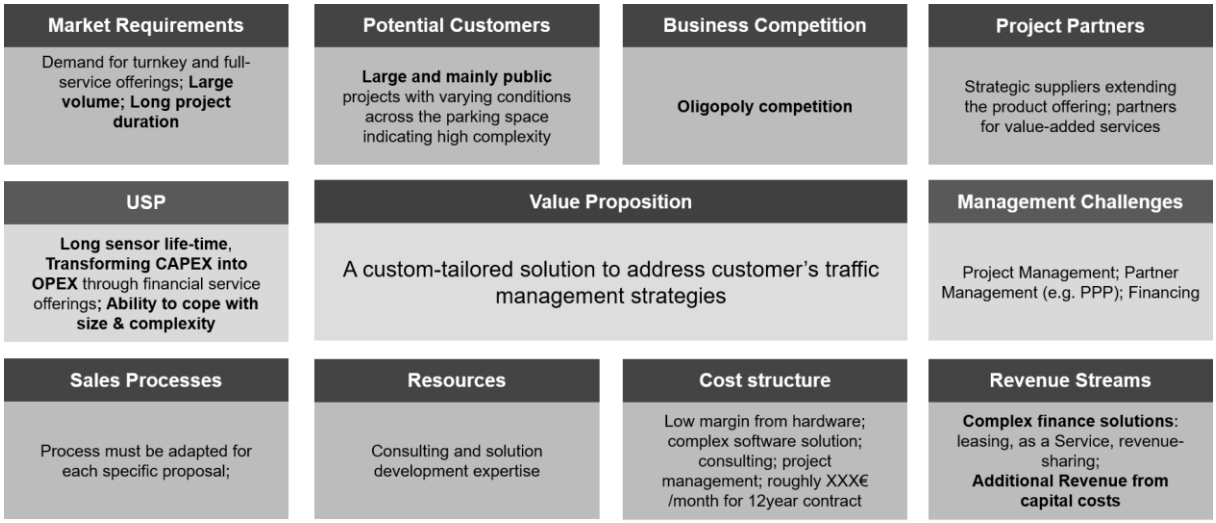

Figure 5: Business model option no. 2 "Custom-Tailored Solution" (own representation)

Digitalization is the basic principle behind business model option 3 *"Analytics Platform"* (BM3 for short). The approach differs from BM1 and BM2. The core of value creation is data processing. Product sales become a side benefit. MjTechComp provides an IT system, which collects raw data from parking sensors but also other available sources. After processing, the system provides valuable information relevant for efficient traffic management. The "Analytics Platform" follows the big data trend. Where the market demands innovative data-driven traffic management solutions, BM3 might be the right approach. It fits with emerging smart city initiatives aimed at increasing efficiency with advanced technologies. MjTechComp faces a new

range of competition with this type of business. Besides other tech firms and their spinoffs, major IT firms offer their platform solutions. MjTechComp' strong point are their longstanding experiences and know how in the traffic management business, working closely with public authorities building a high reputation. Being able to offer own sensor technology sets MjTechComp further apart from pure IT companies. The business model relies on strong partnerships with data suppliers. The correlation of several data sources is supposed to create an even greater value added. This may include data from APM sensors, but also third-party sources, such as weather stations, police news feeds or other traffic sensors. The main challenge with this BM is, that the actual demand is not yet clear. The application of big data analytics is new to most customers. Current tenders do not involve data analytics. Focus should be set on developing an entry strategy for market penetration, carefully positioning the topic. Business acquisition will occur on an individual basis, very likely starting with some pilot projects or as part of Smart City programs. The IT system for BM3 can be built on the basis of platform approaches from other MjTechComp businesses (MjTechComp, 2016c). The required IT expertise is on hand. While fixed costs for platform development and market penetration may be high, follow-up costs are relatively low. The approach to revenue generation is a key differentiator. This BM focuses on a subscription-based pay per use. With exception of APM sensors, capital expenditures (Capex for short) are virtually zero. Platform usage fees designate operational expenditures (Opex for short). Sales options for sensors still need to be determined. Since BM3 is a fairly new approach to parking management, the value of data in terms of sales price is still uncertain. Figure 6 shows the cornerstones of BM3.

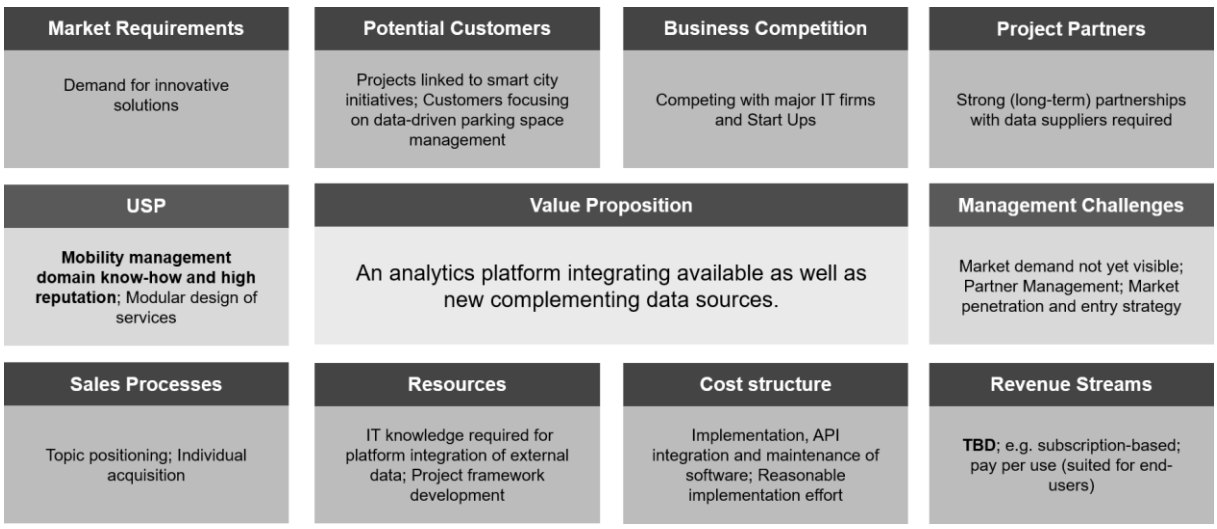

Figure 6: Business model option no. 3 "Analytics Platform" (own representation)

3.3 Case study design

The case study design delineates the research process. It guides data collection and analysis. The RQ in mind, a structured approach helps bypass irrelevant input and focus on information, that give better understanding of the matter. (Labaree, 2017)

I collected data in various ways with triangulation in mind. (Yin, 2009) A review of scholarly literature about existing theories on BM evaluation and related topics provided the basis for my work. An analysis of MjTechComp documents shed light on corporate conditions and the parking sensor technology. An online-survey collected first impressions of innovative BM options for APM. Expert interviews were my main source of information regarding BM evaluation.

The data analysis was structured but pragmatic. Input was condensed, organized and wrapped in a meaningful story. I aimed for a clear and easy to understand writing style. I was concerned about neutrality in my evaluation. However, my own hands-on experiences also contributed to data analysis. Interpretation of respondents' statements added a layer of bias. (Shuttleworth, 2008)

All three data collection methods and my approach to analysis are described below.

Document analysis

A thorough document analysis provided the basis for my own examination of the APM project. Documents help to verify background information on the case. (Yin, 2009) The goal was to get a comprehensive understanding of the current project state, as well as internal and external conditions. The analysis focused on internal presentations, white papers and reports. These sources were more relevant and up to date than the limited number of scientific papers available on smart sparking. Due to secrecy obligations, some APM documents are not available to people outside the MjTechComp corporation. I could view these documents during my collaboration with the APM project team.

The document analysis was performed in two stages. I first searched for documents on the APM topic, getting up to date with the project development. Starting point was the APM repository. Besides technical specifications, it included some early attempts to business model development, status reports and sales presentations. I extended my knowledge with external studies on smart parking. The second stage of document analysis covered the corporation. I was mainly interested in organizational structure and operational processes. My clearance did

not allow the viewing of any business reports on department or division, other than publicly available data. My APM contact pointed out management's reticence regarding anything related to unit performance and financial figures. This secrecy would impede any reasonable measurements as part of an explanatory research on the topic. I thus focused my search on documents available on the intranet and internet presence. Gathered information was consolidated using mind maps. It served as basis for my interview guide and survey questions and filled any gaps for a comprehensive analysis.

Survey

The online survey was used as an additional source of input. It generated insights on parking markets world-wide. Participants expressed their opinion on different business model configurations.

The survey consisted of four sections. The first section centred around participant's role at MjTechComp. The second section gathered individual's knowledge on regional parking markets. The third section followed a greenfield approach, asking participants about their personal approach to parking related business development. The three new developed BM options were presented at last. Participants were asked to rate them regarding current internal and external conditions. They were expected to favour business models close to their current business operations, matching internal and external conditions. Linking back to the theoretical consideration this implies a high relatedness of businesses on several levels. (Markides & Williamson, 1994; Weiss, 2013)

The survey was developed in consultation with the business development manager responsible for the smart parking project. It included several questions on the parking market with little relevance to this study. These questions were aimed at the improvement of the three APM business model options involving regional sales representatives. The large amount of questions traces back to the management team's keen interest in their colleague's opinion on the project. Potential dropouts due to survey length were accepted. The survey design was tested by two informed APM team members and adjusted based on their remarks.

The initial call for participation was included in a quarterly Mobility newsletter addressing 500+ MjTechComp employees from local branches worldwide. Unfortunately, survey responses were scarce. The call got probably lost in the newsletter volume. Above that, the selection of users

was most likely not appropriate. People were not qualified or did not "feel" qualified to give their opinion on the parking business.

The survey required specific knowledge of operations at MjTechComp STMS as well as the parking market. Potential participants should also be used to give their opinion on business development projects and make decisions in the field. I therefore refined the list of survey participants. 30 MjTechComp STMS City Account Managers (CiAMs) were invited directly to participate in the survey. CiAMs are sales managers responsible for Mobility business at MjTechComp' international branches. They are located at MjTechComp subsidiaries all over the world. They share an expertise in the mobility branch and are responsible for either a city, a region or a country. The required expertise justifies the small number of non-random survey participants. A high response rate was expected the second-time round.

Out of 30 invited, 20 people took the survey. It was set up online using the *Lime Survey* online service (*https://www.limesurvey.org/*). Participants received a link to access the survey form. No additional user data was collected, thus responses were anonymous.

Output was evaluated using tools integrated in *Lime Survey*. The distribution of responses per question was visualized with diagrams. (Ekinci, 2015) I forbore to do any further evaluation as it didn't serve the purpose of the survey. Responses were sufficient for an explorative approach supporting insights from document analysis and interviews. I would question their expressiveness in an explanatory study. A greater number of participants would be needed to validate significance. (Ekinci, 2015; Peterson, 2000) Nonetheless, survey insights served my line of argumentation.

Interviews

The focus of data collection was set on in-depth interviews. They formed a major part of BM analysis. I chose interviews, because they are well suited for an explorative approach. The issue at hand arose from practice. Approaching experts in the field seemed reasonable. Working with focus groups was also up for discussion. However, since potential interview partners were situated at different locations, it was unfeasible.

The goal was to identify impact factors for the integration of a new business model in the corporate context. Interview partners were expected to give insights on why a certain BMI would or would not work in the current context.

The selection of interview candidates happened in consultation with my contact partner for the APM project. Potential interviewees were required to be acquainted with the organizational structure and operational processes at MjTechComp. This was only applicable to MjTechComp employees. They were further expected to have a certain level of decision-making power. Lastly, interviewees should have some experiences in the parking line of business. I could interview nine people from Germany and branches across Europe. Interview partners were grouped according to their management level and smart parking expertise for evaluation purposes. I assumed interviewees' internal roles impact their perception and assessment of any BM. Separate valuation would reveal differences and commonalities. The three identified groups were:

- Strategic role → These people are directly involved in the smart parking project. They work on a strategic level.
- Operative role → People, that will be involved with APM as soon as the product enters the market. They work on an operative level.
- Consulting role → These people are not and will not be directly involved with the project, but nonetheless have a valuable perspective. They usually work on a more strategic level.

Figure 7 visualizes the grouping of my interview partners.

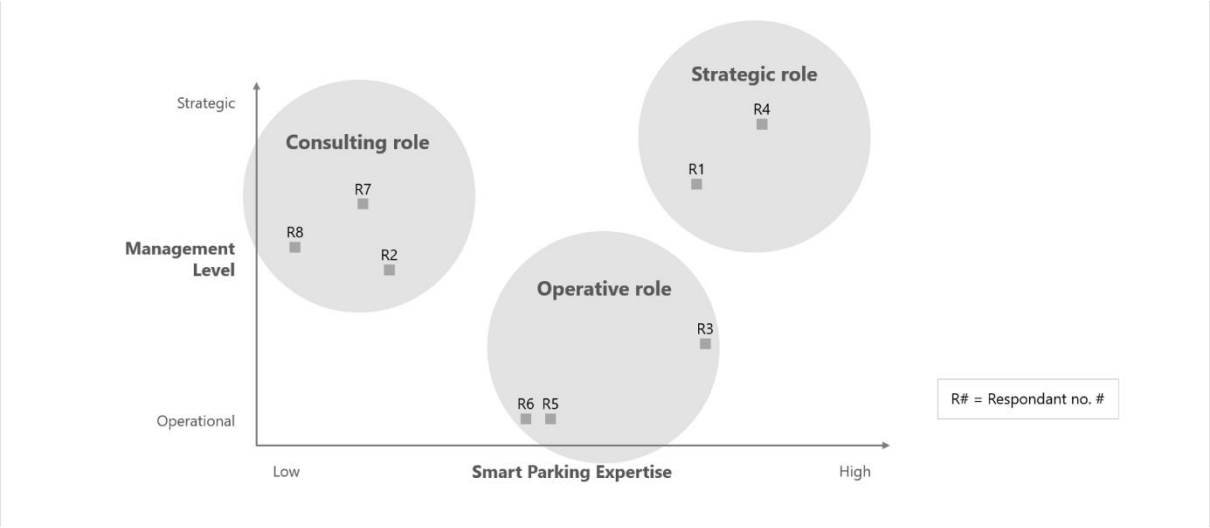

Figure 7: Grouping of interviewees according to their role at MjTechComp (own representation)

Interviews were semi-structured. An interview guide provided a common thread, while I changed questions on the go, reacting to participants' responses. (Cassell, 2015) The first part included questions about their personal understanding of the business done at MjTechComp

(STMS). I asked about the type of business done at MjTechComp, markets, and key resources among other things. The second part revolved around the three APM business models under development. Interviews were carried out face to face or via telephone and lasted between 40 and 60 minutes each. Participants could view the interview guide in advance. Recording all sessions, I could focus on responses and still being able to create a verbatim transcription afterwards.

Transcripts were then coded using a predefined set of topics. A second reviewer analysed the transcribed, coded interviews to ensure method objectivity and consistency. (Cassell, 2015) In case of uncertainty about the underlying message, I contacted the interviewee again to clarify their position. Coded answers were transferred to a table and sorted by topic. I then created response diagrams to visually highlight differences and commonalities among identified roles, Finally, a line of argumentation for the analysis chapter was developed.

3.4 Research limitations and research quality

An analysis of performance data before and after the implementation of an innovative BM would have been a favoured research method. BMI impact on performance could lead to an understanding of influencing factors, facilitating the BM evaluation. Unfortunately, it was impossible to obtain performance data on a minor business level. My only source of information would have been annual reports. The provided overall performance data, however, could not be attributed to BMI. Innumerable other factors influence annual firm development. (Pehrsson, 2006b) I assume this is an issue with most corporations protecting their trade secrets. In addition, major corporations frequently restructure their business units, complicating the collection of long-term statistical series. The lack of performance data impedes most likely any attempt to quantitative research.

In terms of research quality and generalizability of research results, it would have been best to compare how BMI is handled in two or more major corporations. The focus on organizational and operational implications in major corporations implied, however, an extensive analysis of each individual corporation. It was therefore not possible to cover a multi-case study within the scope of this thesis. Since I followed an explorative approach, it seemed justifiable to focus on a single case study, leaving room for upcoming research to approve (or disapprove) the findings with a multi-case study.

Weiss points out the inconsistent use of indicators for measuring relatedness in past research. (Weiss, 2013) Also, while some indicators were measured objectively, many were measured subjectively. Research results may have been different depending on indicators used. A comprehensive theory evaluation is thus rather difficult. It exceeds the capabilities of this thesis paper at the expense of external validity. To increase internal validity, my own evaluations of documents, interview transcripts and survey results were checked over by informed colleagues. I strived for research reliability by including some internal consistency test questions in my interviews and online-survey. Objectivity suffered from my involvement with the APM BM development. The explorative nature of the topic as well as its practical relevance, however, justify my personal interference.

4 Analysis

This analysis chapter summarizes data evaluation. It deals with potential implications of new business models on the corporation. Data was collected from MjTechComp documents, interviews and an online-survey.

First, I provide insights into the corporation, its main businesses, strategic focus and a market perspective. An assessment of business model options for APM follows. Drawing my conclusions from APM, I make propositions on how to evaluate new business models in the context of a major corporation.

4.1 The MjTechComp corporation

MjTechComp businesses are bundled in eight divisions supervised by a managing board. Two more lines of business are managed separately. Each division is further segmented into business units with distinct fields of operation. Divisions and business units are responsible for their businesses including operating results worldwide. (MjTechComp, 2015) Regional chapters represent local extensions of each division / business unit in all parts of the world. Besides operative business, corporate core functions such as HR and Communications are ancillary to the managing board, enabling a strong and independent governance. A dedicated innovation unit was set up in 2016. It aims at the development of new technologies and disruptive ideas. Figure 8 shows the current organizational structure.

Figure 8: MjTechComp Organizational structure (own representation, based on MjTechComp, 2016g)

MjTechComp's firm size, market power and resource availability enable new projects. The strong brand name radiates a promise of quality, which further facilitates the implementation of new and innovative projects. On the downside, MjTechComp's corporate structure is extensive. (MjTechComp, 2016e) Multiple levels of management create an overhead, which may impede any innovative initiatives. Figure 9 depicts the organizational structure based on management levels. Arrows indicate the level's influence on regional business activities.

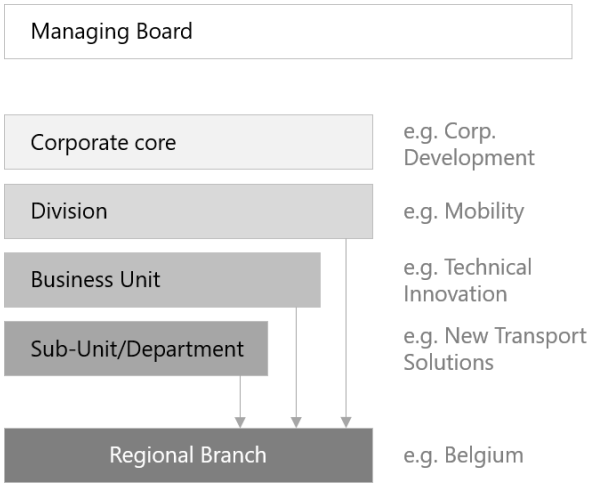

Figure 9: Management levels at MjTechComp (own representation)

Mobility businesses

The mobility division groups several branches of business. This case study is associated with “Smart Traffic Management Solutions” (STMS for short). STMS offers products and solutions for road bound traffic management. Other branches are for example railway and logistics. (MjTechComp, 2016g) During interviews, strategic and operative role describe STMS as a full-range supplier. Product offerings may include service contracts involving setup, implementation and maintenance. Strategic role further states, STMS set-up is comparable with medium-sized companies. They operate with small regional teams.

From consulting role's point of view, mobility business is still very product-driven based on corporate traditions. It reflects a market structure 20 years ago, where MjTechComp would sell only components. Corporate strategy, however, pushes towards servitization, offering products "as services". This will result in smaller order intakes but continuous revenue streams. The so far prevalent product focus is explained by higher profit margins. Products can be scaled and sold globally, while services require regional adaptation. According to strategic role, STMS focus is not yet set on designing and implementing complex solutions and operating these. Implementation of new business models involving custom-tailored solutions (i.e. BM2) would therefore require changes in operational processes. Only operative role thinks business is already well-balanced with 50% product sales and 50% service offerings. This can be traced back to a different understanding of services. From an operational point of view, it may also include installation and maintenance services.

Besides its operative businesses, MjTechComp is also active on a political level, developing strategies and shaping the future of mobility.

The Advanced Parking Management project is currently being developed in the "New Transport Solutions" (NTS for short) department. It belongs to the business unit "Technology and Innovation", which is part of the "Mobility" division (see Figure 9). NTS is concerned with development and market introduction of new products and services. (MjTechComp, 2016g) Once the APM is ready for market, it will most likely have to move to a different department. NTS capacities will be required for other innovation projects.

Consulting role suggests the current complex organizational structure leads to coordination issues for new innovative projects. A revised internal structure is required, which fosters innovative product and business development. They add for consideration; any new structure may also create redundancy as well as discontent among employees.

Resources and partners

Speaking in a general way, MjTechComp is equipped with a huge pool of resources including highly qualified personnel. (MjTechComp, 2017) However most of these are bound to projects. Resource transfers (e.g. developing a new business model) trigger off additional administrative efforts, which slows down corporate flexibility and increases overhead costs. While operative role does not mention any staff shortages, strategic role points out that regional divisions work to their capacity limits. From their perspective, regional divisions lack internal integration managers. Those are required to locally implement projects involving individual solutions (as in BM2 and BM3). Integration managers are experts regarding the regional parking market. They coordinate local partners. Know how transfer between regions appears to be difficult, due to varying local conditions.

Almost all interviewees highlight collaborative efforts with partners. MjTechComp maintains a great partner network. Among are firms of any size: From major corporations through to small regional firms complementing MjTechComp's portfolio. Partnering provides access to businesses, which MjTechComp would not be able to cover on its own. Consulting role terms this "eco-system thinking" and stresses its importance to corporate success. Effective account and partner management are key. Lacking capabilities at STMS (e.g. designing complex traffic management solutions) can be undertaken by third party consulting firms, if necessary. Current product and service offerings at STMS involve a mixture of own developments and acquisition of third-party products and services. Operational role wishes for an increase in regionality regarding product development. Customers tend to prefer proposals with involvement of regional firms. Strategic role also argues in support of regional collaborations.

Partnering with public organizations contributes to the general development of traffic management and traffic control in a region. It promises new business opportunities, according to consulting role. MjTechComp uses established frameworks to develop its software components. (e.g. MjTechComp, 2016c) This ensures reliable functionality and reduces development expenses.

Cost and revenue structure

The cost structure at MjTechComp is marked by bulky overhead costs. This appears to be a frequent issue within major corporations. Strategic role suggests standardization of certain processes to compensate overhead. A revised internal structure may reduce overhead costs,

argues consulting role. Reducing the number of departments involved in product development and sales may also reduce costs. A new structure should allow for flexibility and quicker cost-effective decision making. Strategic and operative role name production, hard- and software development making up large parts of internal costs. Consulting role adds personnel costs to be relatively high at MjTechComp. Surprisingly, an interviewee from the operative role stated, that competition on price is no major issue. I assume that quality claims stand up to maybe higher prices.

Consulting and strategic role agree on a one-time sales emphasis. The focus on product sales has been addressed before. Operational role adds, higher margins can be expected from basic service and operation contracts. The statement, that high volume projects are more attractive comes as no real surprise.

Consulting role notices a shift in revenue structure. Customers change sides from Capex to Opex and request corresponding proposals. This entails a changing income flow for MjTechComp: instead of upfront payment, cash flow is spread among several years of service. Potential impacts on internal processes have not yet been evaluated. However, this development fits with BM2 and BM3's approach to revenue generation.

4.2 Markets

My initial intention to evaluation of business models in a corporate context was to focus on internal aspects. The development process of three APM business models showed, however, knowledge of external aspects is necessary. A subsequent comprehensive evaluation requires alignment with both perspectives: Internal and external. It stands to reason, that a managerial decision for or against an innovative business model would cover both perspectives. Preliminary talks with MjTechComp employees showed, although specifically asked about BM's relatedness with internal aspects, they always digressed, matching it with market demands and competition. Scholarly literature on relatedness also covers both perspectives. (e.g., Srivastava et al., 2001) It seems unjustifiable to solely cover an internal perspective in a major corporation. I therefore also included an analysis of MjTechComp' current market situation as well as an overview of the parking market from outside.

MjTechComp Markets

Public customers, responsible for infrastructure topics, dominate MjTechComp's business in the mobility sector. Parking matters depend on regional specifics. Strategic role explains,

therefore there is not just one worldwide market but several medium-sized parking markets. Local competition is strong, while there are only few international players. The local bound market structure makes it difficult to roll out new BMs. Efforts increase as BMs are matched to each regional market. (MjTechComp, 2016h) There is discord among interviewed roles, whether firm size is a competitive advantage or disadvantage. While consulting role highlights MjTechComp's manpower and brand acceptance, strategic and operative role criticise the corporate overhead. They agree, however, on pricing pressure emanating from markets.

The operative role does not see growth potentials in regional markets. There are usually only few public customers bound by long-term contracts. 46 % of survey participants estimate 1-5% growth potential of parking market turnover until 2020. Still 23% predict growth of 6-11%. I assume strong variations among regions, depending on their infrastructure development status. Consulting role suggests a focus on core competences. That is the development of sensor technology. Other activities should be outsourced. They contradictorily state, that MjTechComp should differentiate through additional service offerings instead. Differentiation on technical level will become difficult. Collaboration with local partners extends MjTechComp's offering and at the same time meets customer's demand for regionality. Public customers lately emphasize regional value creation. They further demand traffic management expertise. A change from pure product sales to more service request is noticeable, according to consulting role. There is a push towards full-service offerings including operation of smart parking solutions. MjTechComp avoids the operation of full parking sites. Competition is very strong there.

Parking Markets

The parking industry has grown contemporaneously with the motor industry. Depending on the region, parking is handled differently. Differences between city areas and countryside are obvious. While somewhere parking is highly regulated with substantial fines for violation, elsewhere it is loosely handled with little control. (The Insight Partners, 2016) Driver's issues vary alike. In some regions, their main concern is car theft, while elsewhere it is generally finding a parking space. The state of infrastructural development is often behind needs. Only a portion of the whole parking market is of interest. Roadworks and construction of car parks are excluded. I focus specifically on smart parking. Smart stands for efficient, technology-driven and future-oriented products and services in the parking business.

Figure 10 gives an overview of the smart parking portfolio. It includes product and services offerings along the parking value chain. (MjTechComp, 2016d) This list is not intended to be exhaustive. It reveals, however, several links for new business opportunities. Outlining the smart parking portfolio is an essential step to APM business model development. It helps to formulate and assess the business offering and point out options.

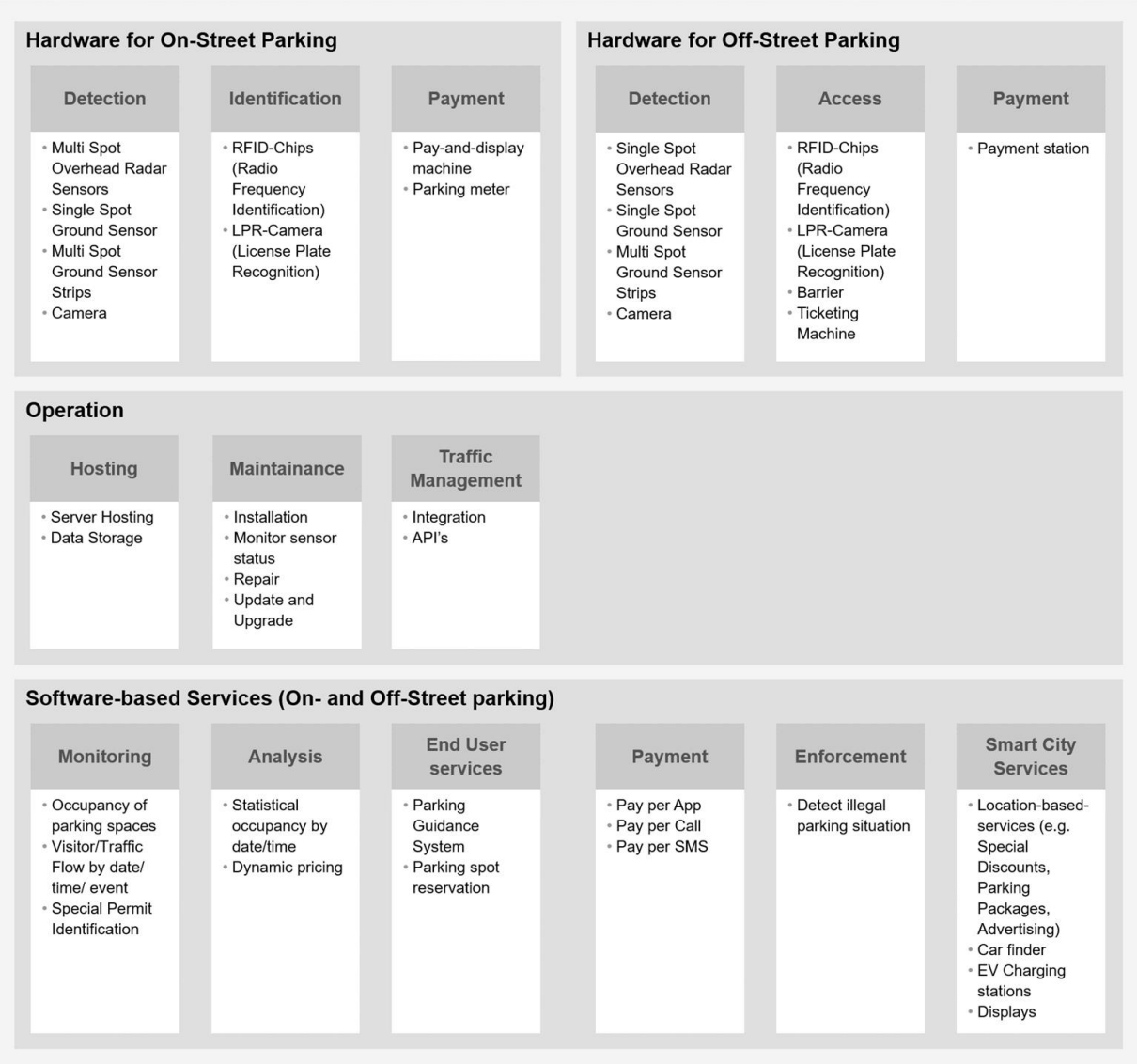

Figure 10: Overview Parking Portfolio (own representation)

The parking market serves three customer groups: Drivers, operators and owners. (MjTechComp, 2016d) The first group seems obvious. The second group "operators" comprises entities, that run the parking area. This makes most sense, when talking about indoor car parks, but may also apply to outdoor parking. Owners of a parking area are either municipalities or, in case of private property, companies. All three customer groups have different concerns. For example, drivers are looking for low parking fees, operators seek for effective enforcement

and owners expect high revenues. A new business model must address one or more of these customers and their concerns. MjTechComp predominately focuses on public authorities, because they also issue tenders. Targeting other customers may open new business options. A pleased driver satisfies, by implication, the owner of a parking area. (MjTechComp, 2016b)

Smart Parking markets are split among a few international and regional players. (The Insight Partners, 2016) Competition differentiates between software providers (e.g. *EasyPark*), hardware providers (e.g. *Urbiotica*), mixed solution providers (e.g. *swarco*) and full solution providers (e.g. *streetline/Kapsch*). While mixed solution providers offer a combination two or more products or services, the latter fully covers the smart parking value chain. Following the trend of integrated mobility, where several mobility services are combined to improve user experiences, many firms collaborate to extend their offering. MjTechComp may act as a mixed solution provider, offering their own sensor technology, software and consulting services. With the help of partners, MjTechComp could strengthen its market position evolving into a full-service provider. Consulting role highlights MjTechComp in-house mobility knowledge. It is a major competitive advantage, especially compared to IT companies with almost no experiences in the parking industry. (MjTechComp, 2016d)

The smart parking market can be considered from different perspectives. Each perspective may reveal points of contact, in other words relatedness, with existing businesses at MjTechComp. First perspective is the segmentation by geography. MjTechComp is active in most countries. Geographical relatedness can therefore be taken for granted. Parking conventions, infrastructure and occupancy rate differ strongly across countries. These differences must be considered when evaluating a business model fit for a certain region. Second perspective is segmentation by component. This refers to the smart parking value chain. It covers detection (hardware), operation, information, payment, enforcement, data processing and other value-added services. While MjTechComp is active in some components (e.g. development of detection hardware), has been active in others (e.g. operation of parking fee vending machines), some components do not match the current business portfolio (e.g. enforcement). Although non-related, enforcement business may still be valuable to the firm. It strengthens the overall business offering. Collaboration with other companies is an option. A third perspective is differentiation between on- and off-street parking with diverging requirements. Off-street parking is mostly owned and operated by private companies. On-street parking is

mainly provided by municipalities. The latter are known business partners. (The Insight Partners, 2016)

4.3 Strategic direction and trends

„In order to take advantage of the manifold opportunities offered by our complex world, a company needs a strategy that points the way ahead and sets clear priorities. " (MjTechComp, 2014) MjTechComp's strategic focus is set on performance increase, strengthening core businesses and eventually expansion in the long run. In preparation for change induced by global or regional trends, several strategic measures were defined and implemented:

- A sharper focus on positioning along the value chain of electrification providing long-term profitable growth. MjTechComp has grouped its businesses accordingly: Power generation; Power transmission, distribution and smart grid; Energy application; Imaging and in-vitro diagnostics. Key drivers in all fields are electrification, automation and digitalization. A restated focus also includes resource allocation in a more targeted manner.
- A streamlined governance system, that supports customer-orientation and further market penetration. Latest changes in structure and business responsibilities trace back to this strategic goal. MjTechComp relies on a lean and flexible organizational setup comprising a combination of regional organizations and vertical management.
- An improved management model for effective implementation of measures throughout the company. This comprises integrated management of financial, operational and social objectives, i.e. measuring and comparing business development across markets using consistent financial figures, operating with clear priorities in mind as well as knowledge and experiences from past projects, and keeping balance between profit, people and planet. (MjTechComp, 2014)

While corporate strategies are shaped by major and mega trends, such as digitalization and globalization, rather minor trends affect the parking market. They influence current parking businesses and the development of new business models. Within the parking branch, smart parking itself is a trending topic. It involves the combination of selected data sources to create useful and value adding information. An example would be the prediction of parking space availability with high accuracy. Smart parking is linked to smart city initiative, which aim at improving various parts of the administrative machinery with technology. This again can be tied to the trend of big data analytics. (MjTechComp, 2016b) Another trend, negatively

connoted, is increased traffic congestion. It may derive from mega trend urbanization. Traffic congestion affects the occupancy of parking spaces. Moreover, the extended search for parking spaces has a negative effect on the environment. Municipalities therefore aim for efficient traffic management solutions, reducing search time for available parking spaces and save the environment. Some other trends, that may affect parking are car sharing offers, support for multi-modality and the use of mobile applications. (The Insight Partners, 2016)
A management decision for or against any new business model should entail an alignment with strategic direction and current trends, specific to the subject area.

4.4 APM business models

I asked interviewees and survey participants about their opinion on three APM business models described in chapter 3.2. Their different perspectives form a comprehensive analysis of each BM option. The interview evaluation showed, that in the most general sense the operative role compared any new business model with current projects, existing customers and latest market demands. Interviewees in a consulting role lacked parking know, which put their attention to a comparison of new BM with current processes, organizational setup and general strategic direction. Strategic fit was also a common subject during interviews with strategic role respondents. Survey results indicated a positive reception of any new BM option.

Business model option no. 1 "Standardized Product Kit"

All interviewed roles agree on BM1's fit with current operational processes at MjTechComp. It should therefore be rather easy to implement and integrate into the established organizational structure. The roles further agree on BM1 addressing current market demands as well as targeting the pricing pressure MjTechComp is subjected to. The basic idea of BM1 is standardization. These standardized products and processes, however, must be attuned to changing market demands and technical developments. Operation role argues that coordination and realignment happen too slow in the major corporation. Smaller firms react much quicker to changing market demands. A standardized business offering could therefore soon lag behind market developments. This can be traced to the organisational overhead and associated managerial decision making processes at MjTechComp. According to the strategic role, standardization counteracts overhead costs and should therefore be encouraged also in other business units. The consulting role is down on BM1. They claim that the standardization approach is rather old school and does not fit MjTechComp ' current strategic direction. BM1

should probably be seen as a first development stage of APM. It is an essential intermediate en route to a refined business, which matches the strategic direction. Attention should be paid to the promise of quality. Excessive standardization efforts and extending the range of products and services (i.e. offering third-party sensor technology) may weaken MjTechComp's reputation in case of malfunctioning. Survey participants predominantly declared a fit between BM1 and current conditions in their region. Especially the cooperation with regional partners appears to be related to current operation. See Figure 4 for comparison.

Business model option no. 2 "Custom-Tailored Solution"

Disagreements determine the evaluation of BM2. Consulting and operative role highlight similarities with current businesses and an organizational fit. Whereas consulting role points out that an essential part of BM2 – consultancy – is rarely found in the MjTechComp mobility portfolio. Strategic fit is in doubt. However, given the further suggestions on how to implement BM2, solely strategic fit or in this case non-fit appears to be no knock-out criterion. Maybe an extension of the mobility portfolio following a revision of the strategic direction should be considered.

Regional branches, however, lack competencies, parking know how and experiences as well as personnel to implement BM2. Additional investments are required. Operational role, active at regional branches, contradicts a competence lack. According to them, regional work forces are ready to implement BM2. On site tasks and maintenance services can be undertaken by local partners. Survey results show that current sales processes could be directly applied to this new business model. Other aspects of the new business model (targeted customers, markets and required resources) are predominantly seen to fit the prevalent conditions, too.

BM2 also introduces additional revenue streams. A shift from capital expenditures to operational expenditures changes the cash flow. Depending on project size, a change in cash flow has impact on firm's capacities. Consulting and strategic role therefore suggest adapting internal processes and revising responsibilities for BM2.

Consultancy is designed to meet individual's requirements. While fee payments are handled by authorities in some countries, others have outsourced it to third-party providers. A single approach will not fit all customers nor all countries. Specific knowledge of regional differences is required and business offerings must be adapted accordingly. This insight comes from

operating and strategic role. Consulting role does not cover that angle. See Figure 5 for comparison.

Business model option no. 3 "Analytics Platform"

BM3 is most different from MjTechComp's current businesses. Interviewees had more to say and stronger opinions on this business model compared to the others. I explain this with the trending topics of big data analytics and "as a service-offerings" and their newness to the industry. It catches additional interest. All three roles see future market potential. They agree, however, that BM3 is not yet ready for market. It lacks a convincing description of added value. Nonetheless, interviewees are aware of increasing relevancy of traffic data analytics. The BM does not fit current organizational setup and mindset, according to consulting role. The other two roles state that BM3 fits the strategic direction of digitalization. Potential customers are currently limited, though. It is assumed that customers are not yet ready for BM3. Consulting role warns of a shrinking customer base. An analysis of recent tenders shows little need for an "on demand platform-based" service. Strong competition is expected in the field of data analytics platforms, especially from IT companies. But MjTechComp's in-house mobility know-how is a competitive advantage.

Operational role claims that regional branches lack technical expertise to setup and operate a platform described in BM3 (see chapter 3.2). A survey question on available IT competencies shows contradicting results. This rather surprises, as survey participants are assumed to mainly fulfil operational roles, too. Available competencies may vary among branches. I further explain this with people's lack of knowledge on technical details. An assessment of necessary and available competences requires technical expertise. According to strategic role, who developed the BMs in collaboration with technical experts, necessary know how is there but distributed among other projects. Thus, these resources are not available for BM3 implementation. Whereas core development requires internal expertise, platform installation could be handed off to local partners.

Strategic role made reservations about data ownership. The integration of third party data sources raises questions about who is allowed to use and who owns these data. In this context, operational role suggests to spin off for each new project to circumvent issues with exclusive rights of use. Spinning-off could also address other concerns, such as the struggle for competences and economic risks.

While the current business model description lacks a convincing solution for commercialization, the implementation will require large investments. BM3 currently bears an enhanced risk of failure. It appears to be work in progress. Consulting role suggests a trial and error approach to refine the business model configuration matching market demands. Operational role wants to incorporate the IT platform behind BM3 with current business offerings, instead of launching a standalone solution. This may bind existing customers to MjTechComp products. See Figure 6 for comparison.

4.5 Findings

The analysis provided a view into the corporate machinery. It revealed selected individual's attempt to BM evaluation. Given its explorative nature, the analysis did not target specific aspects of BM evaluation. Insights are thus diverse. They do not compose a complete picture of BM evaluation, but offer starting points for further study. Following is a description of my findings regarding BMI evaluation in the context of a major corporation.

The BMI evaluation process in major corporations is complex.

Survey and interviews indicate that BM evaluation is an extensive multi-step process. Accompanying the APM BMI development team left a similar impression on me. Any major decision is based on careful consideration and approval from several competent authorities. A decision for or against BMI is assumingly not taken lightly in any firm. But major corporations, such as MjTechComp, are an extreme form, characterized by rigid organizational structures and process operation. They are much less flexible. The creative process of BMI development is bounded by severe evaluation and a far reaching decision. Taking this into account, a standardized evaluation process would comply with corporate conditions. However, it may also inhibit some innovative nonstandard business opportunities.

A comprehensive BM evaluation incorporates multiple perspectives.

I had initially planned to solely focus on internal aspects for BM evaluation. However, all interview and survey participants digressed from internal perspective at some point. Their evaluation also included unsolicited considerations of external aspects, such as market demand, competition and infrastructural conditions. It seems reasonable, that any managerial business decision is based on multiple perspectives. I conclude, that an evaluation of BM options regarding organizational and operational fit must include both, internal and external

considerations. A business model with internal fit but no external suitability, is doomed to fail and should not be implemented.

On another level, the evaluation should consider input from individuals representing varying roles within the firm. In addition to people already involved with the project, supporters and opponents alike, a comprehensive BM evaluation should incorporate unattached input from individuals with a certain project distance. The grouping of interview participants according to their function revealed differences in their evaluation. This attributes to their distinct perspective and perception. The operative role knows market and operative processes very well. They tend to compare any new BM with current business activities. They are generally reserved towards ideas, that do not match prevalent market demands. The strategic role performs on a different level. They explicitly foster the development of new, innovative ideas. They have learned about market conditions but look beyond, also considering forecasted developments. Their evaluation is open-minded, always includes financial assessment and keeps corporate strategy in mind. The consulting role knows least about business case and conditions. However, they are experienced with many other projects and provide an unattached opinion. Their BM evaluation focuses on corporate interests and business trends. All three roles have different fields of attention, which may be helpful for evaluation. Insights from potential customers could, ideally, complement evaluation.

Evaluation based on relatedness criteria is difficult in a corporate context.

Pre-tests showed, the scientific concept of relatedness is difficult to impart to practitioners. Its suitability for BMI evaluation in practice is thus debatable. Individual's perception of relatedness and their own grading scale must also be considered. I followed the approach of Siggelkow (2002), narrowing my questions to "fit" or "no fit" the current conditions regarding selected aspects of new BMs. The majority of survey participants (representing an operative role) approved fit for all three BMs despite BM's differences. This entails considerations whether BM options are too similar or whether the relatedness/fit measurement malfunctions. My alternative explanation relies on the corporate context. MjTechComp draws on a huge partner network. Collaboration rates high within the firm. It supports any part of the value chain and extends MjTechComp's own portfolio. Considering resource relatedness therefore becomes somewhat redundant, when the lack of certain components can be covered with partners. Relatedness concerning technology or competences becomes less relevant.

While the survey requested an assessment of preselected aspects (customer, market, resources, sales process), interview participants were able to express their concerns about any aspect. They partially declared little relatedness of new and prevalent BMs. Aspects mentioned were strategic direction, operational processes, revenue streams and portfolio focus. The question arises, which relatedness criteria apply in a corporate context and which are overruled. Scholarly literature does not settle on a consistent set of criteria and my research only scratches on the surface regarding the specifics of a corporation.

Contradictory at first, interviewees pointed out human resource capacity issues. Regional branches usually work close to full capacity. Although they are capable of implementing a new BM, it would entail reducing working power for other businesses. It implies reduced performance. These capacity issues concern people and capabilities, that cannot be easily compensated through partnering. The link between relatedness evaluation and operational capacity confirms the notion, that very close resource relatedness may actually damage a firm and its SCA.

Corporate strategy impacts BM evaluation.

While operative role tends to compare BM with current business opportunities, the other two roles often pointed out BM's alignment with corporate strategies. Strategies guide business activities in the medium to long-term future. Although an assessment shows little relatedness with current businesses (e.g. regarding products and services involved, current customer base or competences required), corporate strategy may still foster certain BM options. Interviews and survey showed appreciation for BM3 because of its strategic fit, although its remote relatedness with current businesses. On the other hand, BM1 was confirmed a strong relatedness with the traditional product-driven business, but those interviewees with a strategic focus disapproved, as it does not fit with MjTechComp's future direction. I conclude relatedness with corporate strategy prevails other aspects. This applies especially to major corporations like MjTechComp, characterized by slow corporate development but rich in capabilities.

Divergent revenue models may have major impact on operational processes.

An aspect that caused major discussion during interviews were revenue streams. The three APM BM options use different sources of revenue: from one-time-sales, monthly fees to pay-per-use. Incorporating MjTechComp's own Financial Service offering is also up for discussion.

The majority of business transactions is still based on traditional cash flows, i.e. one-time-sales and instalments. Interviewees highlighted the impact of changing cash flows. It involves changing accounting processes, affects liquidity of a business unit, and may influence overall operation. Unless targeting specific innovation of the revenue structure of a corporation, relatedness in revenue streams between old businesses and BMI should be strived for.

Implemented BMI requires continuous evaluation and adaption.

The BM options used for evaluation are by no means definite. A finally implemented solution may deviate from these options in any aspect. They are an initial approach, each somewhat distinct representing varying directions. Just like new products and services, BMI requires testing, analysing and adapting to find a configuration that works in the current setting. Here shows a strength of major corporations. Capital and available resources facilitate BM experimentation. Although risks remain, the impact on a major corporation is assumed to be much smaller than on a medium-sized firm. MjTechComp has taken actions to further reduce business risks by creating a department dedicated for innovation projects. BMI can mature in a protected setting, before being transferred to other business units. Nonetheless as internal and external business conditions change, the BM must be adapted accordingly. For example, new product features must be added, suppliers replaced, or new revenue options explored. In view of corporate inertia concerning change, this may become difficult. Continuous evaluation and adaption should thus be planned ahead in the implementation phase.

Some interviewees suggested the three selected BM options could also be implemented consecutively. While BM1 could be implemented almost immediately, BM2 could be implemented in the near future, as it requires some internal changes. BM3 matches MjTechComp's future strategy, but requires much more development time for a successful market launch. All three BMs could build on and complement their predecessor. Referring to the above mentioned BM evaluation and adaption, experimenting with multiple BMIs, gradually merging them into one outperforming BM, should be considered in this specific case.

5 Conclusion

This final section concludes the research process and gained knowledge is put in context.

A multi-part answer to the initial research question was composed. It linked findings and scientific knowledge, forming my theoretical contribution. Insights were used to give

managerial recommendations for future BMI projects at MjTechComp. A discussion of limitations and starting points for future research completed my work.

5.1 Theoretical contribution

Maintaining a sustained competitive advantage requires diversification efforts. (Ramanujam & Varadarajan, 1989) A firm must develop and adapt in accordance with indicated changes in its environment. Implementing innovative business models seems to be a promising approach to sustained competitive advantage. (e.g., Casadesus-Masanell & Ricart, 2010, 2011; Cavalcante, 2014; Hoyte & Greenwood, 2007) However, BMI also influences existing businesses in a multi-business context. (e.g., Sund et al., 2016; Velu & Stiles, 2013) It may have negative impact on other businesses, like for example binding limited resources or operational process conflicts. (Pehrsson, 2006b) The concept of relatedness between new and old businesses addresses these effects. (Markides & Williamson, 1994) Managers must assess BMI's fit with the organization in advance to implementation. This thesis set its focus on BMI evaluation in a corporate context. Based on the case of APM at MjTechComp, expert interviews and an online survey were conducted and internal documents analysed. Gained insights are used to formulate an answer to the guiding RQ:

> **„How is business model innovation evaluated using the relatedness concept in the context of a major corporation?"**

The multi-part answer comprising my theoretical contribution is composed as follows:

My initial response is, evaluation strongly depends on corporate conditions. My research dealt with just one case in a major tech corporation. Generalizability remains uncertain. The effectiveness of relatedness dimensions is firm specific. It is influenced by firm size and structure among other things. Relatedness impact may differ in smaller firms or firms in different business sectors. Scientific studies on relatedness dimensions focused mainly on the tech industry thus far. (Weiss, 2013) Effects in other industries are unvetted. Several interview partners pointed out MjTechComp's historic development, leading to the corporate setup and influencing manager's mindset. MjTechComp's product-driven business history (MjTechComp, 2017) influences any current assessment. Considering each firms' unique history, a uniform evaluation applicable across multiple firms seems unlikely. BMI evaluation at MjTechComp proved to be complex. It was characterised by a comprehensive preliminary analysis, followed by presentations on several management levels, collecting feedback and

approval. The evaluation process in a major corporation tends to be rather rigid and slow. Organizational structure and operational processes impede flexibility in the decision making. (Frost & Morner, 2010)

Explaining APM BM options to people led to the insight, that BMI presentation is crucial for evaluation. Templates help to clearly showcase key features of each BM option. (e.g., Lindgardt et al., 2012; Osterwalder et al., 2010; Zott et al., 2011) They make options comparable and enable constructive discussion. As some features require further explanation, it may not be suitable for every BMI, though. The template should provide input on selected relatedness dimensions. Participants showed great response rates, when asked to assess relatedness based on a structured template. Insights from a standardized survey were, however, less valuable than individual interviews. A defined BM template could also be the basis for a corporation-wide evaluation framework for BMI opportunities.

Introducing relatedness as a basis for assessment to interview and survey participants showed, that it is difficult to impart a theoretical concept to practitioners. They are used to evaluation based on key figures, trend reports or sometimes just a gut feeling. Basing their assessment on an unknown rather abstract concept, evoked confusion among participants. Combining relatedness evaluation with other methods should increase acceptance. The rating of relatedness depends on people's position within the firm, as well as their individual perception. Limiting the assessment to "fit" or "no fit" on selected criteria (Siggelkow, 2002), helped to reduce any personal bias.

My selection of preliminary literature on BMI evaluation does not address the importance of multiple perspectives. (e.g., Markides & Williamson, 1994; Pehrsson, 2006b; Weiss, 2013) While final decision for or against BMI is made by management, I figured more people should be involved in a comprehensive evaluation. Referring to the concept of triangulation in research (Yin, 2009), I aimed for various opinions from people with different backgrounds. I deliberately included employees in the assessment, who are usually not involved in any managerial decision making processes. They represent various domains, potentially affected by BMI. Their expertise helps gaining a comprehensive understanding of BMI's impact on these domains. It serves as a decision basis for or against any BM option, extending management's perspective. The selection of participants from three primary roles (consulting, strategic and operational role) proved to be of value to the overall evaluation. Operational experts are qualified to assess BMI impact on resources, required expertise and regional market conditions. Consulting

experts with a diverse knowledge of corporate activities, but no direct link to the evaluated project, are better suited to reveal internal synergies or conflicts. Strategic experts, involved in BMI development, align project goals with corporate interests. While participants agreed on many aspects, the conflicting opinions were of special interest. They pointed out aspects of APM, that need further evaluation and/or reconfiguration, such as revenue options and cooperation with partners.

Typical dimensions of relatedness (e.g., Markides & Williamson, 1994; Neffke & Henning, 2013; Pehrsson, 2006b; Sirmon & Hitt, 2009; Stimpert & Duhaime, 1997; Weiss, 2013) showed to be less relevant in the context of a major corporation. Resource relatedness involving technology and expertise (i.e. human resources) were leveraged by the corporations partnering activities. Partnering is firmly established at MjTechComp. Participant's evaluation often assumed the involvement of partners in order to implement BMI, without explicit mentioning. The relatedness measurement should be adapted accordingly. Reconciliation of BMI requirements and existing partnerships should gain attention in the relatedness evaluation. Previous research on relatedness dimensions did not cover the compensation effect of partnering nor cooperating in general. (Weiss, 2013) An additional relatedness dimension could thus be "business partnering" or "business relations". This appears to be especially important regarding the operation at MjTechComp local branches worldwide. While BMI may be successfully implemented in one region, it may fail in another region due to the lack of suitable partners.

Considering the corporate context, I was specifically interested in internal relatedness dimensions. However, participants were inclined to assess external factors. The marketing dimension appeared to be a common choice. (Markides & Williamson, 1994) People working in the field naturally compared BMI with their knowledge of customer demands and competition. It proved to be useful to also involve people with little marketing knowledge for a comprehensive evaluation. Their assessment focused on internal dimensions instead. The marketing dimension indicates, however, the impact of too close relatedness. (Pehrsson, 2006b) Where BMI meets demands of existing customers, it may replace current business ties, potentially decreasing overall performance. A managerial decision requires additional win and loss calculations.

Other relatedness dimensions appeared to be important in the corporate context. MjTechComp, a traditional company, has constructed a complex structure of defined business

processes, building the foundation of its multi-faceted operation. BMI, that does not comply with these business processes, may not be suitable for implementation. My study revealed disagreement among participants regarding process fit. It must be considered that "process fit" is a broad term. I limited the assessment to current sales processes in the online survey, which led to consistent results. A differentiation of process relatedness depending on the specific case is recommended. Linked to process relatedness is the relatedness of revenue structures. Monetary flows deviating from established practices, may cause undesirable process changes and changes in firm's pattern of finance. They most likely impact several other businesses at the same time. BM2 and BM3 evaluated for APM deviated from established revenue models, which needs to be taken into consideration for the final decision. Previous research did not specifically mention a revenue dimension of relatedness. (Weiss, 2013) Respondents from a strategic and consulting background highlighted fit with corporate strategies. Their project distance allowed for an unbiased comparison. While process relatedness for BM1 was given, interview participants pointed out the strategic dissent. This has also been emphasized in previous research (e.g., Burgelman, 1984; Tsai, 2000). Participants recommended rejection of BM1, thus emphasizing the importance of strategic relatedness between BMI and corporation.

The placement of BMI in the corporate conglomerate was not addressed by participants. I had initially planned to seek insights on how BMI evaluation and business transformation are linked. People were not able to give recommendations on integration or separation based on relatedness, though. Since this is usually a management task, other respondents had little input on placement. References were given to the newly founded innovation division. However, that division acts as an incubator for new projects. The issue of integration or separation remains. Respondents generally assumed BMI integration in a business unit with close marketing relatedness. Certain interview participants with a managerial background suggested to keep an open mind about placement, which hints towards an ambidextrous management style. (Markides, 2013; Markides & Charitou, 2004)

The closing part of the answer to the RQ is, that BMI evaluation is not a one-time procedure. It is rather a reoccurring step throughout the implementation and operation of BMI. Corporate success depends on the continuous willingness to explore and experiment with BMI configurations. (e.g., Bogers et al., 2016; Siggelkow & Levinthal, 2003; Sund et al., 2016) Management must pay attention to the impact on existing businesses. Effects on corporate

performance may only show in the long term. Relatedness assessment can guide BMI adaption and improvement. Interview participants suggested incremental implementation of all three BM options presented. While BM1 can be implemented almost immediately, it should be superseded with BM2 and BM3 subsequently. The latter two require more implementation time, as they require operational changes. Experimentation, repeated evaluation and willingness to let off BM options with little fit may eventually lead to a successfully implemented BMI with a configuration deviating from all previous options. (Velu & Stiles, 2013) BMI that fits with the overall corporate configuration will provide SCA. (Girotra & Netessine, 2014)

5.2 Managerial recommendations

The introductory question *„Will this business opportunity fit in with our organization?"* guided this research from a managerial point of view. It symbolized the ongoing struggle of management in major corporations, whether diversification effort in form of a new, innovative business model should be implemented alongside other existing businesses. The thesis at hand summarizes my attempt to explore this issue from a scientific point of view. Based on existing studies on diversification, BMI and business transformation, I concerned myself with the evaluation of three selected BM opportunities for MjTechComp's APM. I conducted an online-survey as well as several interviews and analysed relevant documents in search of suitable criteria for BMI evaluation. The concept of relatedness between businesses guided my research. Following is a collection of recommendations derived from my findings. They target MjTechComp managers facing the decision for or against a new BM. Their effect in other contexts is uncertain.

While the decision for or against BMI remains a management challenge, the evaluation process should involve various employees. Survey and interview participants signalled willingness to help with the evaluation of APM business model options. Their motivation could already be useful in the development process of BMI. The mixture of participants from different roles proved to be useful. Their different perspectives - strategic, operative, consulting role – facilitated a comprehensive analysis of each BM option. Their opinions combined yielded valuable insights in preparation for decision makers. I suggest the involvement of selected employees from these three roles in future BMI evaluation processes.

Given the corporations firmly established partner network, evaluation based on resource relatedness proved to be relatively ineffective. Most supply gaps or missing capabilities can be compensated with partners. The measurement of relatedness of new BM options with corporate strategies turned out to be a valuable criteria. Assuming strategy development comprises projected market developments and trends, strategic fit should be considered a priority criteria for BMI evaluation. Other criteria, pointed out by interview participants, were fit with current revenue structures and regional customer demands. They further highlighted the importance of regional integration managers. Integration mangers are key factor for BMI success in regional branches, as they adapt BMI to regional conditions and coordinate partners. I suggest a decision for or against any new BMI should also incorporate the availability of integration managers in target branches.

The fit and success of BMI further depend on MjTechComp' ambidexterity. (cf. Markides, 2013) Promising new BM options should be considered for experimentation to find a configuration that fits the current context. The corporation should be willing to adapt the BM in response to conflicts with other businesses or external changes anytime. While there was little fit of BM option 2 and 3 with current businesses, interview participants considered the gradual development of BM option 1 towards option 2 and option 3. This can be planned for and worked towards in a process of experimentation and adaption.

Summarizing my research insights, I suggest a cautious application of the relatedness concept in a corporate context. The perceived relatedness may vary strongly across respondents. Further the selection of evaluation criteria is crucial. The combination with key performance indicators (e.g. expected market turnover) for decision making is recommended.

5.3 Discussion and future research

My research was restricted by scope of this thesis, work capacity for interviews and survey as well as APM case parameters. The explorative approach with a single case study did not aim for high significance. Nonetheless, the conclusion provides new angles and starting points for future research.

To confirm the impact of selected relatedness dimensions, previous research analysed firm's performance changes over several years. In case of MjTechComp it seemed nearly impossible to access performance data for selected businesses. A manager stated, even they receive only accumulated data. The corporation is keen to protect their trade secrets. This includes

performance changes, as they allow interferences about a firm's strengths and weaknesses. Access privileges for independent researchers are unlikely. Old data from several years ago may not come under the trade secret. However, due to frequent restructuring, it may not be possible to follow up and clearly link performance changes to BMI. This is probably an issue with most major corporations. Investigating the actual impact of BMI integration is of interest. Besides performance changes, respondents could be interviewed again. Implications could be compared with the ex ante assessment. The product development is, however, still in progress at the time of writing this paper. Market maturity and BMI integration with running businesses will take a few more months.

An entirely objective evaluation would include an unlimited number of innovative business model options. Preselection influences the assessment. However, the case study showed, options are usually narrowed down in practice. Decision makers are presented a selection of different BMs. Those are not certain, though. Evaluation provides feedback, which is used to refine BMs. I chose to follow the practical approach. The APM case provided three BMI options. We decided to preselect options, which could potentially build upon each other. BMI development and evaluation blended into each other. Respondents were able to handle three options. It is doubtful, if they would be able to pay equal attention to many more options.

This thesis focused on a single case study. It would be of interest how business model innovation is evaluated in other corporations. Multiple case studies with similar contexts, i.e. firm size, industry type, markets, would make findings comparable and allow for generalized conclusions. They could involve either one defined BMI, which is evaluated in each setting, or various firm specific options. While research has previously focused on the tech industry, evaluation and the impact of relatedness should be explored in other industries as well. Comparison among different industries could enhance the understanding of relatedness effects.

My research points to potential impact factors, that were not mentioned in previous studies. Benefits of similar business relations (i.e. collaborations, partnering) and conflicts with diverging revenue structures evolved from interviews. If they actually contribute to the relatedness concept, remains uncertain. It needs to be tested in future studies. Researchers should also take a look at varying impact of relatedness dimensions depending on firm size and industry. My attempt to relatedness evaluation in a major corporation revealed limitations. The lack of performance data makes it difficult to confirm and compare relatedness impact.

Other measures (e.g. market shares, tender wins or managerial evaluation) should be tested. When asking respondents to assess similarities in a certain dimension, peoples' understanding of that dimension often interfered with their assessment. This could be improved with some distinct definitions. Research, however, does not yet agree on uniform measures for each dimension. Issues arose for example asking respondents about process relatedness. Since major corporation is characterized by a complex system of processes, people were uncertain which process to evaluate. I specifically asked about relatedness of sales processes in the online-survey and probably should have done the same during interviews. Similarities between sales processes do not balance out mismatch in other processes, though. Measuring solely sales process relatedness is therefore not suitable for concluding BMI fit.

Demanding input from people with various responsibilities proved to be insightful. It contributed to a comprehensive evaluation. While there are studies on managerial decision making and individual perception of relatedness, the value of a multi-perspective assessment appears to be underrated. Upcoming research on BMI evaluation is suggested to incorporate a multi-perspective assessment and verify its contribution.

My final suggestion for future research is the development of an evaluation framework for business model innovation based on relatedness dimensions. From a theoretical point of view, a framework facilitates uniform measurement of BMI impact through relatedness. As a prominent starting point for further investigation, it fosters research on BMI evaluation. From a practical point of view, a framework simplifies managerial decision making regarding the organizational fit of new business opportunities. Any framework, however, must consider the "innovative" in BMI, allowing room for deviations.

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