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Investigation of How a Startup's Existing Offering Matches Market Needs
A Study from the Swedish Market for B2B Budgeting Solutions

Master's Thesis in the Master's Programme
Management and Economics of Innovation

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Abstract

Rising opportunities and challenges in the business context are becoming increasingly important to consider. This has been especially evident within technology and software industries, where startups have been able to compete with existing and established actors. However, in order for startups to be successful, it is important to understand the market and its perception of value. Yet, a primary reason to why startups fail is associated with a lacking ability to design the value proposition in accordance to market needs. The purpose of this research is to investigate how Startup X meets the market's perception of value in supporting the budgeting process with their existing offering. Startup X operates on the Swedish B2B budgeting and planning solution market and targets clients with yearly revenues exceeding 1B SEK. In order for this research to be conducted, literature in the areas of, for instance, business modelling, value proposition design, IT evaluation and budgeting have been reviewed. Furthermore, data has been collected through sales material from Startup X to understand how its value proposition intends to provide value, as well as from 25 interviews with a complementary survey to understand the market's perception of value. The research suggest that Startup X's existing value proposition is relatively well-designed according to market needs, but specific areas for improvement have been identified. Thus, potential improvements and adjustments to the value proposition can be made to better meet the market's perception of value.

Keywords: value proposition, customer value, customer development, startup, budgeting, IT evaluation, problem solution fit

Definitions

Business-to-Business (B2B)	Relating to business arrangements or trade between different businesses, rather than between businesses and the public, especially when this takes place over the internet (Cambridge Dictionary, 2017).
Budget	A plan that shows how much money an organization expects to earn and spend during a particular period of time, and how it will spend its money (Cambridge Dictionary, 2017) .
Cost Center	A part of a company or organization considered as unit so that the costs relating to it can be calculated for the company's accounts (Cambridge Dictionary, 2017).
Excel	Refers to Microsoft Excel as part of the Microsoft Office suite.
Gains	All outcomes and benefits that the market indicates to want or desire.
Pains	All aspects which the market indicates to be more or less of annoyance.
Planning	The process of planning activities or events in an organized way so that they are successful or happen on time (Cambridge Dictionary, 2017).
Profit Center	A part of a company that is treated as a separate business and that is expected to make a profit (Cambridge Dictionary, 2017).
Software-as-a-Service (SaaS)	Software that is owned, delivered and managed remotely by one or more providers (Gartner, 2017).
Solution	A solution is an implementation of people, processes, information and technologies in a distinct system to support a set of business or technical capabilities that solve one or more business problems (Gartner, 2017).
Startup	A temporary organization in search of a scalable, repeatable, profitable business model (Blank & Dorf, 2012).
Value Creator	Explicit features of an existing value proposition which intend to create customer value by creating gains and/or alleviating pains which clients are believed to emphasize.
Value Proposition	Describes the bundle of products and services that create value for a specific customer segment (Osterwalder & Pigneur, 2010).

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1. Introduction

Due to an accelerating pace of change in today's global economy (McKinsey, 2014), rising opportunities and challenges in the business context are becoming increasingly important to consider. This has been especially evident within technology and software industries, where innovations in business as well as technology have given rise to opportunities for new ventures, or startups, to create new markets or establish a competitive presence in existing markets. In order to do so, the goal of startups is not only to build products, services or solutions in generic terms but rather to build the right products, services or solutions that customers find attractive and are willing to purchase as quickly as possible (Ries, 2011). This goal alludes to the need for startups to manage both product development to build the product, service or solution quickly as well as customer insights to understand what the right products, services or solutions actually are.

However, startups in general have limited knowledge of the market they are trying to serve (Blank & Dorf, 2012). This stress the importance of listening to what the market actually wants or needs as well as being agile and having the flexibility to adapt to those market needs. This demand for flexibility in startups' way of working naturally extends to the need for flexible business models where all aspects of businesses can be adapted (Blank & Dorf, 2012). Indifferent of whether an organization is a startup or an established company, a proper business model in general is essential for business success (Magretta, 2002) which stresses the importance of a proper understanding of the business model concept. However, this understanding is currently hindered since there is no widely accepted definition of the business model concept (e.g. Casadesus-Masanell & Ricart, 2010; Zott et al., 2011), which may affect organizations' abilities to design business according to the needs of the market.

Market needs is especially important to consider when designing the value proposition. The value proposition is a major reason as to why customers choose one offering over another since it satisfies customer needs or solves customer problems (Osterwalder et al., 2010). Moreover, only two out of ten startups succeed within the initial three years of operations (Feinleib, 2011) and a primary reason to this challenge is associated with startups' inability to appropriately design the value proposition according to the market needs. The challenge of managing customer insights, in order to build and design value propositions successfully, is aligned with what is referred to as market risk, which describes the uncertainty of whether customers will choose to adopt a technology (Blank & Dorf, 2012).

Startup X was founded in 2015 and rather than being in a position to develop a new offering, the startup already has an existing offering based on iterative customer development work through a handful of commercial pilot projects. The offering is a solution for the B2B planning and budgeting market and version 1.0 of the software is planned to be ready in late 2017. Therefore, the startup is preparing a market strategy for the product launch in order to mitigate the previously discussed market risk that is prevalent for startups in general. Considering this, it is necessary to complement Startup X's market insights gained in conducting the pilot projects with an understanding of whether the startup's offering is aligned with the needs and preferences of the target market in general. Hence, the purpose of this research is formulated as the following:

> *To investigate how Startup X's existing offering meets the market's perception of value in supporting the budgeting process.*

The intention of this purpose is not to provide explicit recommendations but rather qualitative material for discussion that may be used as an input for Startup X's market strategy development. Furthermore, three research questions are outlined to facilitate the fulfillment of the research purpose:

RQ1: How does the existing offering intend to provide value to the budgeting process?

RQ2: How does the market perceive value in terms of supporting the budgeting process?

RQ3: How well does the existing offering meet the perceived value of the market?

Besides fulfilling the research purpose, an example of how to contextualize value proposition theory, for instance by using industry-specific literature, will be provided. The scope of this research is to address the value that Startup X's existing offering provides to a budgeting process, identify the aspects that the budgeting and planning market perceive as value-adding, and lastly assess the match between the value that Startup X's current offering provides with what the market perceives to be value-adding. Furthermore, since Startup X's target market includes sizeable companies with yearly revenues exceeding 1B SEK, the research only focuses on these types of companies as potential clients. The research is also delimited geographically to the Swedish market due to Startup X's current intended presence on the market. Lastly, the technical depth discussing the actual system will be kept on a high level in line with the requirements and the time frame of this research.

This thesis is structured according to the following eight chapters:

Chapter 1: This chapter provides an understanding of the background to the research. In addition, the purpose and the research questions to be answered are outlined, followed by a presentation of the scope and delimitations.

Chapter 2: This chapter outlines a summary of reviewed areas of literature relevant to this research, which is used as a base for a theoretical framework to guide the analysis.

Chapter 3: This chapter presents the theoretical framework to be applied in the research as well as the reasoning behind the framework and how it aims to guide the research towards answering the outlined research questions.

Chapter 4: This chapter outlines the research methodology applied to fulfill the research purpose and the reasoning behind the chosen methodology.

Chapter 5: This chapter provides the empirical findings that concern Startup X's current offering as well as a summary of market findings based on interviews. The chapter also presents results from a survey concerning how companies rank different criteria in a solution evaluation.

Chapter 6: This chapter presents the analysis of the empirical findings and is structured according to the theoretical framework outlined in Chapter 3. The analysis is

conducted in harmony with the literature review and all research questions are answered in sequence.

Chapter 7:   This chapter outlines a reflection on the analysis outcome in Chapter 6 as well as a discussion concerning future research and how that would provide value.

Chapter 8:   This chapter presents a general conclusion of the thesis.

2. Literature Review

In this chapter, the areas of literature which have been identified as relevant for the research are outlined. The review begins by outlining general business model literature for contextual purposes before moving on to literature concerning value proposition design, customer development and organizational buying. Thereafter, more industry-specific areas in regards to Startup X is presented with literature covering evaluation of IT, technology acceptance and lastly planning and budgeting.

2.1 Business Model

As per Chesbrough (2007), all companies have business models even if they are not articulated. Moreover, Magretta (2002) argues that a good business model is a necessity for every organization to be successful, and this is independent of whether the organization is a new venture (start up) or an established player on the market. This is supported by Baden-Fuller & Morgan (2010) who suggest that "the ubiquity of the term and the plethora of its uses" point to the importance of business models in the world of business. In the research by Amit & Zott (2001) of how value can be created by businesses conducting economic transactions over the internet (referred to as e-business), the business model concept is applied as a unit of analysis. The research explains the business model concept's relevance for internet-based businesses and coincides with the period of time where the business model concept began its gain in prominence, as found by Osterwalder et al. (2005). Accordingly, the Internet was a major driver in the increased attention drawn to the business model concept during the shift to the 21st century (Magretta, 2002).

2.1.1 Business Model Definitions

Considering the importance of a well-developed business model for any enterprise, it is argued that the business model concept needs to be properly understood by business practitioners before it is applied (Magretta, 2002). Among others, Morris et al. (2005) and Casadesus-Masanell & Ricart (2010) highlight that there is no widely accepted definition of the business model concept, and this creates a challenge for both practitioners and scholars to understand the concept. The lack of an accepted definition is further supported by Zott et al. (2011) in their literature review of the business model concept. A comparison of business model definitions applied by scholars in selected research areas are presented, and while it is concluded that the topic of business models has gained increased attention over recent decades, the definition of a business model is not agreed upon. Moreover, the definitions applied were found to be defined in the interest of respective research area and the three main research areas that have applied the business model concept are: (1) e-business, (2) strategic issues, and (3) technology and innovation management. As there are a numerous definitions of business models currently being used without one being more accepted than another, a more thorough understanding of the differing definitions is needed.

E-business is the research area in which business models have received most attention in the past and refers to doing business electronically, including e-commerce, e-markets and Internet-based business (Zott et al., 2011). One business model definition used in the research area was coined by Amit & Zott (2001) where a multitude of theories contributed to the definition, including virtual markets; value chain analysis; Schumpeterian innovation; the resource-based view of the firm; strategic networks; and transaction cost economics (Amit & Zott, 2001). This research resulted in the following definition:

> *"A business model depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities."*
>
> (Amit & Zott, 2001)

The area of strategy has applied the concept of business models to explain firms' abilities to create and capture value by conducting activities, and establish competitive advantage (Zott et al., 2011). Magretta (2002) applies a less formal approach to understanding the business model concept (Casadesus-Masanell & Ricart, 2010) by comparing business models to stories, where all stories are more or less variations of old ones. Thus, with business models being stories that explain how enterprises work by describing their underlying logic, she argues that all new business models are variations of old underlying business logic. In essence, Magretta (2002) is applying a simplified version of the value chain concept of a firm, developed by Porter (1985), in her reasoning by arguing that a business model deals with describing the two main parts of a firm's value chain to make a profit for shareholders: (1) making or providing a product or service, which entails how to identify and create value for customers and (2) selling that product or service which related to how to capture a part of the created value as profit. As a result, her definition of a business model is as follows:

> *"Business models are stories that explain how enterprises work. A good business model answers Peter Drucker's age-old questions: Who is the customer? And what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?"*
>
> (Magretta, 2002)

The focus of applying the business model concept in technology and innovation management is on the appropriation of value from technological innovations. Chesbrough and Rosenbloom (2002) argue that the inherent value of a technology remains latent until commercialization, which in turn is reliant on a business model. Moreover, Chesbrough (2010) entertains the thought that a mediocre innovation may be more valuable within a great business model than a great innovation within a mediocre business model. This emphasizes the importance of a business model, and in a research to distinguish between business models, business strategy and innovation, Teece (2010) further supports this by emphasizing that innovators need business models to both deliver and capture value from their innovations. This importance of a suitable business model for technological innovations is described as especially applicable for Internet companies, which is explained by customers expecting basic services to come free of charge and thus results in creating revenue streams challenging. Their definitions are as follows:

> *"The business model is the heuristic logic that connects technical potential with the realization of economic value."*
>
> (Chesbrough & Rosenbloom, 2002)

> *"A business model articulates the logic, the data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value."*
>
> (Teece, 2010)

The evident inconsistency in the definition of the business model concept may be attributed to the concept's function of having multiple roles, as argued by Baden-Fuller & Morgan (2010). In their research, the authors investigate the applicability of business models and try to conclude why business models are important and meaningful as a concept. In large, the authors conclude that business models have different purposes and thus play different roles: (1) to describe and in general categorize businesses based on their descriptions, (2) to act as models for scientific enquiry which is trying to understand businesses in a passive sense, and (3) to act as "business recipes" and enable business practitioners to proactively experiment with businesses.

Even though the business model concept is defined differently in explicit terms between scholars, there are still commonalities that can be observed in the different definitions (Zott et al., 2011). Among the commonalities, the concept of value is considered to be prevalent and is referred to in a multitude of the definitions presented. The value proposition concept is seen as playing a central role in the main research areas that have applied the business model concept: (1) e-business, (2) strategic issues and (3) technology and innovation management. Moreover, an emphasis is on both value creation and value capture and this is manifested in the following definition of a business model:

> *"A business model describes the rationale of how an organization creates, delivers, and captures value."*
>
> (Osterwalder & Pigneur, 2010)

2.1.2 Business Model Design
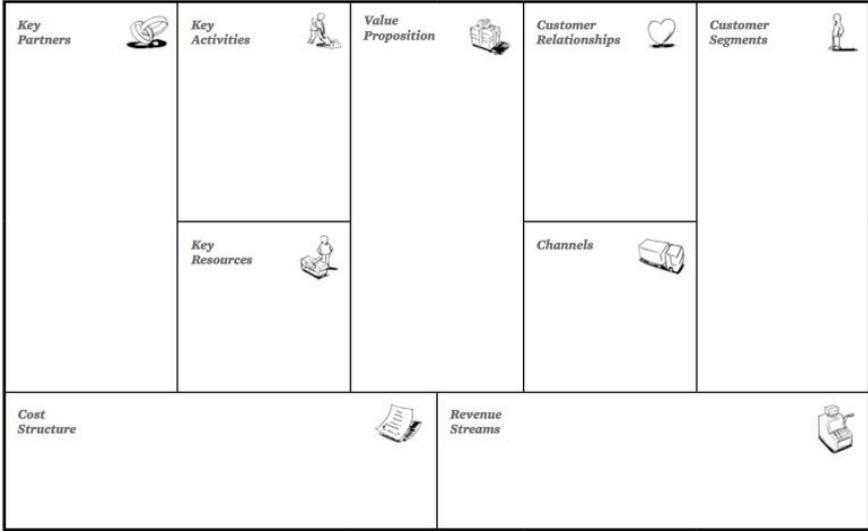
Figure 1 Business Model Canvas (Osterwalder & Pigneur, 2010)

In research by Osterwalder (2004) to conceptualize the business model, a generic framework to describe business models was generated based on the synthesis of existing business model literature. The generated framework is referred to as a "business model ontology" by the researcher himself but has since become refined by Osterwalder & Pigneur (2010) and is known as the Business Model Canvas (BMC), which can be seen in Figure 1. The BMC is described as a tool that assists in creating value for a business venture (Osterwalder et al., 2014) and should be used as "a shared language for describing, visualizing, assessing, and changing business models" (Osterwalder & Pigneur, 2010). Its importance and usefulness is emphasized

by Blank (2013b), who views the BMC as a standard framework for entrepreneurs who are able to experiment to find a sustainable business models.

The BMC helps to structure and design business models and is in the original research based on four business model pillars which can be regarded as companies' four primary areas of business: (1) customer interface, (2) product (3) infrastructure management and (4) financial aspects (Osterwalder, 2004). From these four areas of business, nine interrelated business model building blocks are outlined that intend to describe any company and how the company intends to be profitable. The centrality of the value proposition in a business model, as argued by Osterwalder & Pigneur (2010), is visualized by having the value proposition building block in the center of the BMC. In Table 1, all nine building blocks are outlined in accordance with the refined research by Osterwalder & Pigneur (2010) and are sorted according to the business model pillars in the original research by Osterwalder (2004).

Table 1 Nine building blocks in the business model canvas (Osterwalder, 2004; Osterwalder & Pigneur, 2010)

Business Model Pillar	Business Model Building Block	Description
Product	Value Propositions	Describe the different products or solutions that a company offers. Every value proposition is a "bundle of products and/or services" and should solve a customer problem or satisfy a customer need.
Customer Interface	Customer Segments	Describe the people or groups which the company intends to reach and serve as customers of the company's value proposition. Customers can be grouped into different segments according to specific attributes, such as needs or behaviors.
	Channels	Describe the way a company interacts with its customer segments. This includes all means to reach customers through communication, distribution and sales channels.
	Customer Relationships	Describe the relationships a company have with its customer segments. These relationships can differ significantly between customer segments and influences the customer experience.
Infrastructure Management	Key Resources	Describe the most essential assets necessary in order for the business model to be viable. The assets enable companies to create and offer the value they intended to their respective customer segments, as well as capture parts of that value as revenue.
	Key Activities	Describes the most essential activities a company must conduct in order for the business model to be viable. Similar to key resources, key activities are essential and enable companies to create, offer and capture value.
	Key Partnerships	Describe the network of partners and suppliers needed in order for a business model to be viable. The partnerships enable companies to create and offer the value propositions intended to their respective customer segments.

| Financial Aspects | Revenue Streams | Describe how a company generates revenue and what revenue a company can generate from the different customer segments. |
| | Cost Structure | Describe the different costs incurred as a result of operating the specific business model, as the creation and offer of value generates costs. |

2.2 Value Proposition

In a research paper by Kambil et al. (1996), the importance for companies to re-invent their value propositions to generate superior returns and shareholder value is emphasized. This focus on value propositions is not only important for established businesses but also for new ventures which is why the value proposition concept is such an integral piece to business modelling in general, as argued by Byers et al. (2013); this importance is exemplified by business model definitions converging toward focusing on value propositions and the BMC is centered around the value proposition concept.

Even though the value proposition is seemingly commonly understood and a widely-used concept by both scholars and business practitioners, there is a lack of an explicitly agreed upon definition (Kambil et al., 1996). Osterwalder et al. (2010) describe the value proposition as a primary reason to why a customer would pick one company over another and sees the value proposition as either solving a customer problem or satisfying a customer need. Moreover, they view each value proposition as consisting of a bundle of products and/or services that are purposely selected to accommodate the needs of a specific customer segment. While largely in line with this view, Kambil et al. (1996) suggest the following definition of the value proposition concept:

> *"We suggest that value propositions define the relationship between what a supplier offers and what a customer purchases, by identifying how the supplier fulfills the customer's needs across different customer roles. Specifically, it defines the relationship between the performance attributes of a product or service, the fulfillment of needs across multiple customer roles (e.g., acquiring, using, and disposing of products/services), and the total cost."*
>
> (Kambil et al., 1996)

The suggested definition by Kambil et al. (1996) is in agreeance with the description of value propositions satisfying or fulfilling customer needs (Osterwalder et al., 2010). A superior understanding and ability to serve the customers' needs is the reasoning as to why certain companies are superior performers, in terms of profitability, within a specific industry (Kambil et al., 1996). This is aligned with Lindic & Marques da Silva (2011) who argue that customers do not buy characteristics of an offering but rather the benefits that the offering provides. Therefore, the success of a value proposition design is reliant on a proper understanding of what customers truly value.

2.2.1 Concept of Value

From a marketing perspective, customer value is emphasized. However, the importance of value in general is grounded in its essential character for company success, and the traditional focus of companies has been to maximize shareholder value; in other words, to primarily please investors. In a research paper focused on loyalty-based management as a means to maximize profitability of a company, Reichheld (1994) emphasizes the need to look beyond this

simplified view of only looking at shareholder value as a one-goal pursuit. He argues that such an approach will increasingly be too focused on maximizing profitability that it will undermine and, perhaps even more worryingly, ruin essential elements driving profitability. Reichheld (1994) proposes the need for a company to create value from a larger stakeholder perspective which in addition to serving investors also serves both employees and customers. This larger stakeholder proposition is also supported by Treacy & Wiersema (1997) who describe customer value, shareholder wealth and employee satisfaction as being highly interrelated. An argument is being made that for a business to maximize profitability, the business must maximize retention rates of stakeholders and thus build a stable business; business stability is emphasized in order for a business to be sustainably capable of creating value for stakeholders in exchange for their contributions to the business (Reichheld, 1994).

This argumentation is in line with the loyalty-based management approach as increasing retention rates imply a focus on loyalty. However, as the loyalty of customers is considered to be the most mobile, due to customers usually having low switching costs (Reichheld, 1994), serving customers as a stakeholder group needs to be prioritized ahead of investors and employees. The sustainability of customer loyalty is directly dependent on the value received by customers, and Treacy & Wiersema (1997) further points to the importance of customer value by viewing it as "an indispensable source of both shareholder value and employee satisfaction". Lam et al. (2004) further extends on the research area by moving away from a B2C focus. The research investigates the linkages and interrelationships between perceived customer value, satisfaction, switching costs and loyalty as constructs in a B2B service context and aims to detail how these underlying constructs may underlie customer loyalty. The results of the research support the fact that customer value is positively related to customer satisfaction, which in turn is positively related to customer loyalty. Thus, customer value is linked with customer loyalty in B2B which is in agreeance with previous research on customer loyalty in a B2C context (e.g. Reichheld, 1994).

In a review, synthesization and extension on the customer value concept, Salem Khalifa (2004) concludes that it is a commonly used concept in both strategy and marketing literature. Woodruff (1997) claims that an increased focus on customer value arose as a result of companies trying to find new ways to reach and sustain competitive advantage in an increasingly competitive environment. Companies are described as previously being internally focused to improve their products and internal operations processes. While this inside-out approach results in quality improvements and organizational changes, which in turn leads to efficient operations, whether the approach is effective as means of competition is not conclusive. This doubt is supported by Baker (2010) who outlines the importance of effective business rather than efficient business. In this view, effectiveness highlights the end-goal that is to be sought which is delivering what customers are subjectively valuing. Thus, both Woodruff (1997) and Baker (2010) emphasize the movement from an inside-out approach that begins with looking at internal operations to an outside-in approach which starts with a customer focus.

While the customer value concept is common in accordance with the perceived importance to business success (Woodruff, 1997), Leszinski & Marn (1997) express their concern for a distortion in the actual meaning of the concept; they state that the value is one the most overused and misused terms in the areas of marketing and pricing. The authors argue that the most essential aspect of value is to focus on the trade-off between the benefits that customers perceive to receive from an offering and the costs that customers incur in order to receive those perceived benefits. This is aligned with the benefits/costs ratio models that Salem Khalifa (2004) proposes

in order to evaluate perceived customer value. The author finds that there are numerous of different ways that researchers have defined customer value in which they use the constructs of benefits and sacrifices in terms of costs.

2.2.2 Value Proposition Design
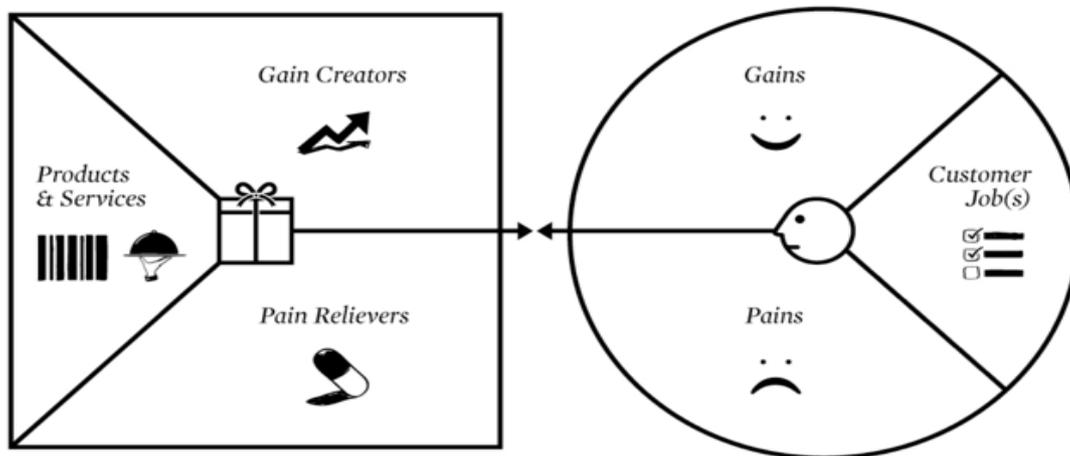
Figure 2 Value Proposition Canvas (Osterwalder et al., 2014)

Due to the importance of creating value for customers (e.g. Reichheld, 1994; Treacy & Wiersema, 1997; Blank & Dorf, 2012), it becomes essential for businesses to design their value propositions accordingly. Thus, Osterwalder et al. (2014) present the Value Proposition Design approach that uses the Value Proposition Canvas (VPC) as a tool (see Figure 2). The VPC's role as a tool is similar to the BMC's role in Business Model Design. However, while the BMC assists in capturing value for the business, this business value capturing is based on the value created for customers and this is what the VPC assists in (Osterwalder et al., 2014). In essence, the VPC is regarded as an extension of the BMC and the VPC focuses on the fit between two of the BMC's nine building blocks: (1) Value Proposition and (2) Customer Segment. This is in accordance with the centrality of the value proposition in a business model and the intention of the Value Proposition Design approach is to use the VPC to either invent or improve upon an existing value proposition according to the needs of the targeted customers; the approach is therefore applicable for both startups and established organizations.

The Value Proposition Design approach aids the design work by adding structure, enabling communication and managing risk (Osterwalder et al., 2014). In regards to adding structure, the canvas helps organizations to clearly organize their design work in a more detailed way and enables more efficient progress towards meeting the customers' most essential needs. The structure also enables better visualization of the work for everyone involved and this allows for a common ground to work from. Thus, the VPC functions as a tool for communication that focuses on the needs of customers rather than a product-centric approach revolving around the product or service that a value proposition is built upon. Lastly, concerning the management of risk, Value Proposition Design is based on an iterative approach where continuous testing is essential in order to not waste time, effort and money on non-viable ideas. This is especially applicable in the initial phase of Value Proposition Design, in which you search for suiting value propositions through iterative design work and testing. In the latter "post-search" phase, the Value Proposition Design work becomes more streamlined and linear where focus is on

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evolving the value propositions to keep them aligned with the customers' needs. This focus on aligning value propositions and customers' needs results in three main features of the VPC: (1) Customer Profile, (2) Value Map and (3) Fit.

Customer Profile

The Customer Profile represents the right side of the VPC and describes a specific target customer segment (Osterwalder et al., 2014). The Customer Profile is in essence a more detailed equivalent of the BMC's Customer Segment building block, and the idea is to explicitly describe a targeted customer segment based on real observations in order to understand customers' specific needs. A detailed understanding of customers will enable organizations to design their value propositions accordingly and as can be seen in Figure 2, the Customer Profile is separated into three components to detail this customer understanding: (1) customer jobs, (2) pains and (3) gains. Moreover, it is recognized that in order to design a value proposition properly in a B2B context, the value propositions must generally cater to multiple stakeholders within the business of a client organization (Osterwalder et al., 2014). The reasoning is that stakeholders have the power to influence the purchase process and thus the ultimate purchase decision made by the potential client as an organization. Therefore, since stakeholders may have different needs and desires, each stakeholder's Customer Profile differs in terms of customer jobs, pains and gains. In addition, since the relevant stakeholders differs in terms of number of stakeholders as well as the roles that stakeholders have in different organizations, all relevant stakeholders in each potential client organization should be identified. Thereafter, a Customer Profile should be outlined for each and every identified stakeholder, which enables the design of different value propositions for each identified stakeholder's Customer Profile, and this results in several different VPCs.

For each Customer Profile, jobs that customers are striving towards completing should be outlined. In order to identify jobs, it is essential to apply a customer perspective in the research and focus should be on specific tasks that customers are looking to complete, problems that they try to solve or needs that they are looking to satisfy. In generic terms, Osterwalder et al. (2014) outline three main categories of jobs that customers need to complete: (1) functional jobs, (2) social jobs and (3) personal/emotional jobs. Functional jobs refer to such jobs needed in order to solve specific tasks or problems and are perhaps the easiest jobs to identify. Social jobs revolve around jobs to satisfy needs to be perceived in certain ways by others in the workplace, for instance in regards to competence. Meanwhile, personal/emotional jobs are more internally oriented where individuals are looking to satisfy personal needs without regard for the environment around them. In addition to these main customer jobs, supporting jobs based on buyers, co-creators and transferrers of value may affect customer needs. All of these main and supporting jobs should be outlined and then ranked based on their importance to customers. This leads to the importance of understanding the job context since this may afflict specific constraints or limitations that make outlined jobs more or less important. After having a more detailed understanding of the different jobs that customers need to complete, the pain and gain points associated with the jobs need to be made explicit.

The pain points, or simply pains, represent more or less anything that customers feel to be of annoyance in the whole process of trying to complete the jobs. In order to ease the identification of pains they can be separated into three categories: (1) undesired outcomes and problems, (2) obstacles and (3) risks. Undesired outcomes and problems are such pains that can be directly attributed to the functional, social, personal/emotional and supporting jobs. An obstacle-focus helps to identify pains that is actually hindering customers from completing the intended job. Lastly, risks refer to potential outcomes that have negative consequences and should therefore

also be one perspective to use in order to identify pains. As opposed to pains, the gains outline all outcomes and benefits that customers actually do want or desire. The identification of gains is eased by differentiating between four categories of gains: (1) required gains, (2) expected gains, (3) desired gains and (4) unexpected gains. Required gains refer to such gains that must be present in order to do the intended job. Meanwhile, expected gains may not be required to complete the jobs per say but are still assumed to present in a solution. Desired gains are such gains that customers identify as wanted when being asked but is not that they expect from a value proposition; in other words, desired gains go beyond customer expectations but are viewed as beneficial. Lastly, similar to desired gains, unexpected gains also go beyond customer expectations. However, these gains go so far beyond expectations and are so unexpected that customers are not presently able to see the benefits in these gains.

Value Map
The Value Map represents the left side of the VPC and outlines the different features of a value proposition (Osterwalder et al., 2014). Thus, similarly to how the Customer Profile is the equivalent of the BMC's Customer Segment building block, the Value Map is the equivalent of the BMC's Value Proposition building block. In order to outline the different value proposition features in an organized manner, the Value Map describes a value proposition in three components: (1) products and services, (2) pain relievers and (3) gain creators. Products and services refer to those underlying objects that a value proposition is based upon and are crucial in order to complete the jobs outlined in the Customer Jobs component of the Customer Profile. Therefore, the products and services assist in completing functional, social, personal/emotional as well as supporting jobs. In order to assist in identifying products and services, Osterwalder et al. (2014) describe a number of different types of products and services that may be relevant which are physical/tangible, intangible, digital and financial products.

However, products and services only provide value if they are paired with the right pains and gains which are associated with a specific customer segment. Therefore, a value proposition needs to alleviate the customer pains and reach customers' expectations of gains which are all outlined in the Customer Profile. In regards to alleviating pains, Osterwalder et al. (2014) recognize that pain relievers cannot alleviate all pains outlined by customers. Instead, a great value proposition should focus on reducing or eliminating the most pressing customer pains. The same type of reasoning is applied for customer gains; while there might be numerous customer gains outlined in the Customer Profile, a great value proposition should be focused and having gain creators address the most important customer gains in order to make a significant difference for customers. A pain reliever does not necessarily have to address pains but could also create gains and a gain creator could accordingly address pains as well. However, every pain reliever and gain creator outlined should address at least one or more pain or gain; otherwise, it may not create any customer value and should thus not be referred to as a gain creator or pain reliever.

Fit
The absolute essence of Value Proposition Design is to achieve and sustain a fit between the Value Map and the Customer Profile (Osterwalder et al. 2014). Such a fit refers to the situation when a value proposition addresses the most essential and/or currently insufficiently addressed jobs, pains and gains since that creates the most customer value. Therefore, how well the Value Map and Customer Profile actually fits can also be viewed as how well a value proposition has been designed based on a specific customer segment's needs. In order to understand whether a proper fit has been achieved, or how well the products and services that is offered actually deliver what customer want, the connection between the Value Map and the Customer Profile

must be made explicit. This is done by relating all outlined jobs, pains and gains in the Customer Profile with the outlined products and services, pain relievers and gain creators. The idea is to gain an overview of which jobs that are actually addressed by products and services, which pains that are relieved and which gains that are created. It is once more worth noting that it is not necessary to relieve all pains or create all the gains outlined by customers since that is unreasonable to ask for from a specific value proposition; instead, focus should be directed on the most essential gains and pains.

The fit between what an organization offers and what customers actually want or need can be described in three stages (Osterwalder et al., 2014). The first stage is known as the Problem Solution Fit which is achieved when an organization have an explicit understanding of the different jobs, pains and gains that customers prioritizes in combination with a properly designed value proposition that outlines how it intends to address those jobs, pains and gains. In this stage, the value proposition is still merely built on assumptions and has yet to be proven to create value. The second stage, the Product Market Fit, is more of a confirmation stage where the organization's designed value proposition is tested. The assumptions about how the designed value proposition creates value for customers in practice, in other words if gains are actually created and pains are being relieved, will be validated or invalidated by the customers themselves. This stage allows an organization to redesign their value propositions in an iterative process. The last stage is referred to as the Business Model Fit. Here, the properly designed value proposition as a result of the work in reaching Product Market Fit is tested to see if it can be incorporated into a business model that is profitable and scalable. This stage proves whether or not the organization can use the designed value proposition which has been proven to create customer value by reaching Product Market Fit to create value for the organization itself. Therefore, it is essential to understand that Product-Market Fit is not enough to reach business success; an iterative work process to find a suitable business model for a value proposition that creates value for customers is required.

2.3 Customer Development Process
In Blank & Dorf's (2012) book The Startup Owner's Manual, the authors define a startup as "a temporary organization in search of a scalable, repeatable, profitable business model". This implies that the initial business model for a startup is not clear at the very beginning with uncertainty regarding the market to be served and the associated customers. However, Blank (2013a) outlines how startups commonly make the mistake of ignoring these market uncertainties by being too product-centric in their approach.
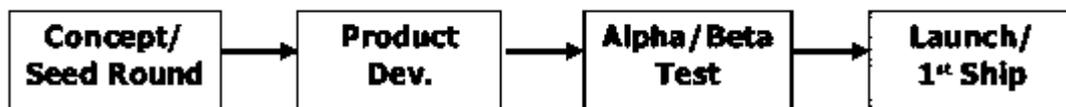
Figure 3 Product Introduction Diagram (Blank & Dorf, 2012)

As described by Blank & Dorf (2012), the traditional approach focuses on some form of product management model (see Figure 3) where a product moves from an initial development stage into a testing stage where customers are able to provide feedback. This is then taken into consideration by developers before the product is launched and made available commercially. However, for startups uncertain about competition and customers, receiving customer feedback only after the product has been developed is too late. As a result, this leads to startups failing to gain traction commercially. Therefore, in addition to this product-centricity and internally focused development model to ensure that a product or service is developed as quickly as

possible, a more externally focused approach is needed that recognizes the uncertainties about customers and their willingness to adopt new products or services. For instance, the Lean Startup Methodology by Ries (2011) recognizes this and is, in simplified terms, applying the iterative and incremental agile engineering method for product development and then complementing this with the Customer Development Process for continuous customer feedback to support the product development.
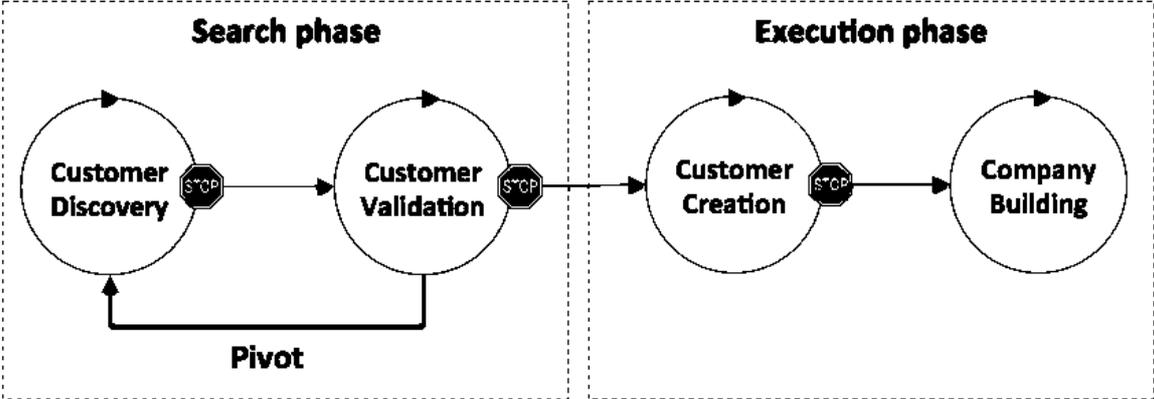
Figure 4 Customer Development Process (Blank & Dorf, 2012)

The Customer Development Process (see Figure 4) emphasizes the acquisition of an in-depth understanding of customers and markets which is then used to guide the product or service development process (Blank & Dorf, 2012). The Customer Development Process adds value by organizing startups' search of suitable business models and the process allows for rapid customer feedback from the very beginning, in contrast to the traditional product management model. The premise is that a startup is not merely executing a clear business model but initially also searching for a business model that is viable. Startups do this by testing all types of hypotheses about their respective business models through customer and market interaction, and this means that the startups continuously and iteratively refine their respective business models in the search for the right fit.

As can be seen in Figure 4, the Customer Development Process contains four separate but interrelated steps; the first two steps are conducted to search for a fitting business model while the last two steps are conducted to execute on the fitting business model (Blank & Dorf, 2012). Each of these steps are iterative in nature, which is represented with circular tracks and recursive arrows, and followed by a stop sign. The iterative approach is a way to signal the acceptance of making changes after learning and discovering new facts. Meanwhile, the stop-signs are present to make sure that sufficient learning at each stage has been conducted before moving on to next stage. In Table 2 below, brief descriptions of the four steps in the Customer Development Process are provided.

Table 2 The Customer Development Process steps (Blank & Dorf, 2012)

Process Step	Description
Customer Discovery	This step aims to turn the initial vision for a startup into a number of hypotheses about each component of a startup's business model. Thereafter, these hypotheses are tested and turned into facts.
Customer Validation	This step aims to test the business model and see if it is scalable and repeatable. If the answer is no, then the startup needs to pivot back to the Customer Discovery stage to revise the business model. However, if the answer is yes, then the search for a business model has been completed.

Customer Creation	This step aims to start the execution of the business model by building up demand and initialize sales efforts.
Company Building	This step aims to transition from being a startup to being an actual company. A more formal approach to operating is implemented in order to execute and scale the company.

2.3.1 Customer Discovery

This research is primarily concerned with the first step of the Customer Development Process, the "Customer Discovery" step. The premise of the whole process is that a business model has yet to be found and therefore not to make any assumptions about a business model without actually testing and validating the assumptions; testing and validating the assumptions is a part of the search for the business model (Blank & Dorf, 2012). Therefore, this initial step of the process begins by first concluding the vision that the startup founders have for their startup and future company by detailing business model hypotheses. This work is structured according to the BMC (Osterwalder & Pigneur, 2010) and hypothesis are constructed for each of the nine business model components. Thereafter, all hypotheses and thus all components in the business model are tested by engaging with prospective clients and gaining insights in order to validate the hypotheses. The main objective of the Customer Discovery step is to turn the initial business model hypotheses into facts and will allow the startup founders to make the necessary to changes to their business model.

This approach of testing and validating the different parts of the business model by engaging with clients is referred to as the outside-the-building approach (Blank & Dorf, 2012). Clients are the ones who knows about their problems, how they believe these problems can be solved and how the actual procurement process in their companies works. Thus, engaging with clients is emphasized since the Customer Discovery step is not necessarily about collecting feature lists wished by clients in order to build an offering; the Customer Discovery step is about first "defining the product vision and then use customer discovery to find customers and a market for that vision" (Blank & Dorf, 2012). Therefore, it becomes essential for startups to talk to clients and learn about them in order to build a successful product or service and articulate the reasoning to why customers should choose that product or service.

The Customer Discovery step can be described in two phases. The first phase is problem-focused and concentrates on problems that clients are perceiving and the customers' need to actually solve these perceived problems. A thorough understanding of the problem situation will allow the startup to assess whether the problems mentioned by clients are big enough for them to be willing to consider buying a solution. This leads to the second phase of the Customer Discovery step which is solution-focused. In this phase, the startup needs look at their offering and present this to the clients. In essence, the startup needs to test the hypotheses about the offering to see if it is considered to solve a sufficient amount of clients' problems to motivate purchases. Only when the importance of the problems as well as the offering as a solution to those problems have been confirmed may the Customer Discovery step be considered to be complete.

The Customer Discovery step allows a startup to have opportunities to learn and make changes to their business model. By making major changes to any of the nine business model hypotheses based on feedback from clients is known as pivoting and this occurs regularly in the Customer Discovery step (Blank & Dorf, 2012). It should also be noted that a major aspect of the Customer Discovery step is to search and find a sufficient Problem Solution Fit. In essence, the

Problem Solution Fit refers to matching a startup's offering as a solution with the targeted client segments' problems.

2.4 Customer Roles in Organizational Buying

In line with the definition of the value proposition proposed by Kambil (1996), it is important to understand the needs across multiple customer roles. Various customer roles in an organization could be distinguished in different ways, but the set of roles commonly used in the literature is in line with the work of Webster & Wind (1972). This piece of literature presents different roles involved in a buying situation in an organization, which the authors refer to as a buying center. Roles included in a buying center are the following: users, buyers, influencers, deciders and gatekeepers. One role can be held by several individuals, and one individual can hold several roles. Slight adjustments of the buying center have been made during the years where other roles such as initiators and saboteurs have been included (Havaldar, 2005; Osterwalder et al, 2014). However, the roles in the buying center, presented by Webster & Wind (1972), have the following meanings:

- *Users* - those members of the organization who use the purchased products and services
- *Buyers* - those with formal responsibility and authority for contracting with suppliers
- *Influencers* - those who influence the decision process directly or indirectly by providing information and criteria for evaluating alternative buying actions
- *Deciders* - those with authority to choose among alternative buying actions
- *Gatekeepers* - those who control the flow of information into the buying center

All roles are obviously important to consider in order to understand factors determining a procurement decision. Furthermore, while Bonoma (2006) emphasizes the importance of roles "behind" the deciders, he also states that many purchases would not be made without these deciders acting as product champions. It is a necessity to understand deciders' preferences since they, according to Keillor (2007), make the actual purchase decision. Regarding users, they often initiate the buying process and are usually involved in specifying product requirements when evaluating different alternatives (Kotler, 2013; Havaldar 2005). Furthermore, Kekre et al. (1995) state that usability is one of the key factors for driving customer satisfaction in software products. Lastly, Forman et al. (2007) highlight the importance of considering users in order to gain trust in today's cooperative relationships relying on repeatable transactions.

2.5 Evaluation of IT Solutions

Johnston & Lewin (1996) describe the process of understanding organizational buying behavior as complex and that the behavior depends, among other things, on different organizational needs. Building upon this, Nickson (2008) emphasizes the fact that knowing your own needs as an organization could be one of the toughest challenges during the IT procurement process. In addition, organizational needs function as a basis for framing criteria to consider when evaluating an IT solution. However, as per the reasoning of Truex et al. (1999), organizations are continuously evolving and this means that needs and requirements changes continuously as well. Moreover, since organizational needs differ from firm to firm and from situation to situation, customers' requirements and criteria for evaluating products and services differs from case to case as well. However, Nickson (2008) suggests a list of criteria to consider when evaluating general IT solutions. In addition, research regarding procurement of specific types of IT-solutions, such as Software-as-a-Service and Enterprise Resource Planning (ERP), have been conducted, resulting in suggestions of criteria for these specific types of solutions.

2.5.1 Evaluation of General IT Solutions

Nickson (2008) outlines that criteria for evaluating IT solutions in general could be categorized as either being quantitative or qualitative. He further states that quantitative ones are often easier to work with, since they are easy to compare. In line with this reasoning, he also proposes that qualitative criteria should be framed in way which enhance measurement and thereby makes them easier to compare as well. Within the section of quantitative criteria, Nickson (2008) suggests the following list of 14 criteria important to consider during evaluations; Performance, Capacity, Availability, Price, Timetable, Project or Service Management, Quality (assurance), Financial Track Record, Company Reputation, Service & Delivery Track Record, Flexibility (solution), Capability, Added Value, and Subcontractors. He further on present the following 7 qualitative criteria relevant to consider; Management Approach, Professionalism, Company Credibility, Flexibility (organization), Subcontractors & Third Parties, Comfort or Relationship, and Relative Size.

2.5.2 Evaluation of Software-as-a-Service Solutions

Software-as-a-Service Solutions are based upon the concept of cloud computing, where Armbrust et al. (2010) point to the obvious benefit of having the opportunity to scale computer resources according to the clients' current needs, which enables the ability to pay for computing resources on a usage basis. Polyviou et al. (2014) propose a comprehensive framework for factors relevant when evaluating a Software-as-a-Service solution, based upon information from two bodies of literature: (1) Information Systems and (2) Computer Science. Their framework consists of a list of 23 factors categorized in four groups: (1) Technical, (2) Strategic & Organizational, (3) Economic and (4) Political & Legislative. The Technical category is described as dealing with factors related to the technology and factors like functionality and flexibility are presented here. Factors affecting the buying organization's objectives and goals are captured in the category Strategic & Organizational, for instance factors such as support level and brand name of vendor. Furthermore, the Economic category concerns factors dealing with the financial aspects of the service offered and examples are pricing and payment methods. Lastly, the fourth category, Political & Legislative, captures factors such as service level agreements and legal compliance.

2.5.3 Evaluation of ERP Solutions

In the work of Behrens & Sedera (2004), it is concluded that while ERP systems intend to meet all functional and operational requirements of organizations, it is difficult for one ERP system to fulfill all expectations that complex organizations might have. This is the reason as to why shadow systems, which are defined as "systems which replicate in full or in part data and/or functionality of the legitimate systems of the organization", may benefit and help individuals within the organization to produce better work outcomes; shadow systems help in adding flexibility and adapting systems according to individuals' and organizations' needs; thus, shadow systems bridge the functionality gaps ERP systems leave behind. Furthermore, processes of investing in ERP solutions often lack a systematic approach to evaluation of different alternatives, which is why Wei et al (2005) investigates this topic further and presents a framework for guidance in the selection phase. Their framework per se will not be handled in this research, nevertheless evaluation attributes identified in their case study will be presented. Wei et al. (2005) apply their own framework for ERP evaluation in an empirical case in Taiwan, resulting in nine attributes relevant to consider when selecting an ERP solution. The nine attributes are categorized as either being related to system factors or vendor factors, as visualized in Table 3. Attributes related to system factors are (1) Total Costs, (2) Implementation Time, (3) Functionality, (4) User Friendliness, (5) Flexibility and (6) Reliability, while attributes related to vendor factors are (7) Reputation, (8) Technical

Capability and (9) Service. To describe each attribute identified by Wei et al. (2005), a presentation of underlying evaluation items that make up for each attribute is presented in Table 3 as well.

Table 3 Attributes for evaluation of ERP systems (Wei et al., 2005)

Type of Factor	Attribute	Underlying Evaluation Items
System Factor	(1) Total Costs	Price, maintenance costs, consultant expenses and infrastructure costs
	(2) Implementation Time	-
	(3) Functionality	Module completion, function fitness and security
	(4) User Friendliness	Ease of operation and ease of learning
	(5) Flexibility	Upgradeability, ease of integration and ease of in-house development
	(6) Reliability	Stability and data recovery
Vendor Factor	(7) Reputation (of Vendor)	Scale of vendor, financial condition and market share
	(8) Technical Capability (of Vendor)	R&D ability, technical support capability and implementation ability
	(9) Service (of Vendor)	Warranties, consultant service, training service and service speed

2.6 Technology Acceptance

In order to understand the user perspective during adoption of new software, it is important to identify what determines a user's willingness to use the software. If a user will use a system or not is according to Davis (1986) determined by the users' attitude toward the system. The attitude depends on the perceived usefulness and the perceived ease of use, which in turn are determined by the system's design features. Davis (1986) describes perceived usefulness as "the degree to which an individual believes that using a particular system would enhance his or her job performance" and perceived ease of use as "the degree to which an individual believes that using a particular system would be free of physical and mental effort". These causal relationships constitute the essence of the first version of the Technology Acceptance Model (TAM), proposed by Davis (1986). TAM originates from the psychology field and the Theory of Reasoned Action (TRA), developed by Ajzen & Fishbein (1980), which states that behavior is directly determined by the behavioral intention and indirectly by the attitude.
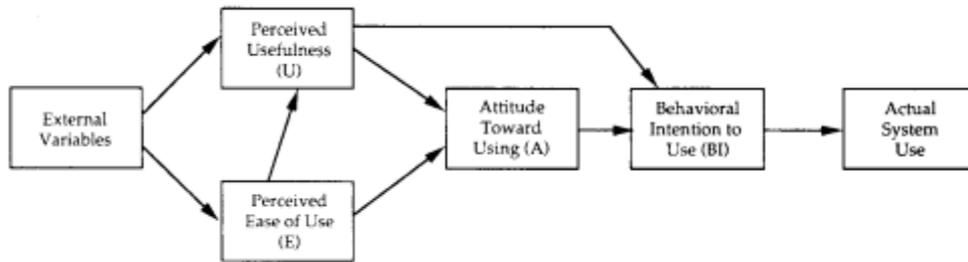
Figure 5 Technology Acceptance Model (Davis et al., 1989)

TAM has been revised and modified multiple times by researchers during the last decades, resulting in plenty of existing versions all slightly different from each other (Marangunić & Granic, 2015). A critical component is the "behavioral intention to use", in line with TRA, which was included in the revised TAM model presented by Davis et al (1989) (see Figure 5) to explain the perceived usefulness direct influence on the actual system use.

2.7 Planning and Budgeting

According to Lalli (2011), all planning processes are based on a series of assumptions, regarding both the internal and external environment of a business. The author further explains that in order to plan a business it is important to establish a strategic plan and an operational plan, which also the budget process later on will proceed from. The operational plan is based upon outcomes of the strategic plan, describing in more detail planned activities and aims to function as a guideline for the operational work in all business units (Lalli, 2011). Plans like these, referred to as business plans by Friend & Zehle (2008), serve several functions, including providing a base for operational budgets, targets and management control. In relation to this, Bangs (2001) outlines that policy, described as what the business will do, and control, described as the measurement of accomplish policy goals, are critical factors in order to run a prosperous business. Bangs (2001) continues with highlighting the importance of the accounting system as the core in the operations of control, where a budget is solely a subpart. To understand the role of budgeting when managing a business, it is necessary to understand how budgeting is related to accounting in general.

Accounting is, by the academic field, divided into multiple subgroups as stated by Weber & Stevenson (1981), where examples of these subgroups are financial accounting, tax accounting, management accounting and auditing. However, Horngren (2014; 2013) among others (Drury 2013; Coombs et al., 2005) emphasizes the difference between two of these: (1) financial accounting and (2) management accounting. These two subgroups are often distinguished by if they produce information for external use or internal use, which is referred to as financial accounting and management accounting respectively. Horngren (2014;2013) proposes the following description for financial accounting:

> *"The branch of accounting that develops information for external decision makers, such as stockholders, suppliers, banks, and government regulatory agencies."*

(Horngren, 2014;2013)

He further proposes the following description for management accounting:

> *"The branch of accounting that produces information for managers within an organization. It is the process of identifying, measuring,*

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accumulating, analyzing, preparing, interpreting, and communicating
information that helps managers fulfill organizational objectives"

(Horngren, 2014;2013)

Management accounting in turn contains plenty of concepts and techniques in order to support decisions within the organization. Though, Otley & Emmanuel (2013) among others (Horngren, 2014;2013) state that one of the most commonly used concepts in organizations is budgetary control, or simply referred to as the budget process (Drury, 2013). Budgeting is often a natural part of the implementation of a business plan in an organization, where it is serving multiple purposes and is acting as material to use for decision making (Drury, 2013). Drury (2013) propose six possible purposes for budgeting including planning, coordination, communication, motivation, control and evaluation. A short description of each of these purposes, in line with descriptions provided by Drury (2013) and Ax et al. (2009), is presented in Table 4 below.

Table 4 Budgeting Purposes (Drury, 2013; Ax et al., 2009)

Budget Purpose	*Description*
Planning	Refers to the budget as a detailed plan of upcoming activities based upon the strategic plan in order to reach predetermined objectives.
Coordination	Implies that a budget functions as a way to coordinate operations from various units and thus get all units working in the same direction.
Communication	Refers to how budgeting facilitates employees' possibility to influence upcoming activities by involving them in the planning phase. Communication also concerns information flow in the other direction covering guidelines and expectations from management out through the organization.
Motivation	Regards motivating managers in order to enhance their performance and make them fulfill outlined objectives.
Control	The process provides a way to compare actual results with the initial plan, and directs focus to deviations and their underlying reasons.
Evaluation	Similar to control as it is also related to the fact that the process provides a way to compare a manager's actual results with the initial plan, which enables evaluation of managerial performance.

A budget process is structured very differently from company to company and it is thereby difficult to describe how a general budget process looks like (Ax et al, 2009). Furthermore, budgeting is generally regarded as a time-consuming process adding relatively little value to the business (Hope & Fraser, 2003). However, it is often possible to determine whether a company uses a top down or bottom up approach to budgeting, depending on how the process is initialized. A top down approach is described in loose terms by Lalli (2011) as a budget which is driven by a strategic plan, while a budget emerging from operational level rather follows a bottom up approach. Ax et al. (2009) further outlines that all employees are involved in the budgeting process to some extent. In addition, a term often mentioned in accordance with budgeting is forecasting. The essential difference between these lies in what they are actually estimating; while budgeting estimates the expectations of the amount of revenues and expenses an organization want to achieve, financial forecasting estimates the amount of revenues and expenses an organization will achieve (Investopedia, 2015). Thus, budgeting results in a plan describing where the business want to go and financial forecasting results in a plan describing where the business is heading.

3. Theoretical Framework

In this chapter, a theoretical base is outlined that describes the reasoning behind the theoretical framework and its intended use in the study. Thereafter, the theoretical framework itself is detailed.

3.1 Theoretical Base

The research will be revolving around the concepts of the value proposition and customer value. This is in accordance with a more customer-centric approach due to the importance of creating customer value for business success (Reichheld, 1994; Treacy & Wiersema, 1997) and thus managing the market risk that all startups face due to the lack of market knowledge (Blank & Dorf, 2012). In order to put the value proposition focus into context, the research makes use of literature on business modelling as a stepping stone in which value propositions play an essential role. All startups are searching for viable business models (Blank & Dorf, 2012) and is dependent on the ability for business models to both create and capture value, which business model literature emphasizes (Zott et al., 2011). This search alludes to a degree of experimentation in order to find a suiting business model and is aligned with using business models as "business recipes" (Baden-Fuller & Morgan, 2010).

The creation of value that business modelling emphasize may be regarded as the creation of customer value through value propositions, while the capturing of value may be regarded as the creation of business value (e.g. in terms of monetary profit) based on the initial creation of customer value. The point of emphasis in this research is on the initial customer value creation and this can be associated with the first step of the Customer Development Process: Customer Discovery (Blank & Dorf, 2012). However, while the Customer Discovery in its entirety is focused on constructing and validating assumptions about all nine components in a business model according to the BMC (Osterwalder & Pigneur, 2010), this study will only focus on the value proposition and customer segment components.

Considering the focus on the value proposition and customer segment, the study will be structured based upon the work of Osterwalder et al. (2014) and their Value Proposition Canvas (VPC). The VPC is structurally aligned with the research and the use of the VPC as a base will allow the research to be structured in order to find what Osterwalder et al. (2014) refer to as Problem Solution Fit. This fit is highly relevant in regards to the research purpose and structuring the research in line with the VPC will allow for a closer understanding of the hypotheses that a startup has about its value proposition and the companies that the startup are pursuing; these companies will hereby be referred to as clients or client companies. This is aligned with constructing assumptions about the value proposition and client segment that Blank & Dorf (2012) emphasize as part of the Customer Development Process and is highly relevant in regards to the two initial research questions.

For a more explicit reasoning behind structuring the research based on the VPC, consider the following: RQ1 is addressed by outlining the VPC's Value Map and thus detailing the specifics about a startup's current value proposition, which enables the research to present how Startup X's current offering intends to provide value to clients. Moreover, the research addresses RQ2 by outlining the VPC's Customer Profile and describing prospective clients' current ways of working, their associated needs and desires and thus what aspects Startup X's intended market values. Lastly, by comparatively analyzing how well the outlined Value Map addresses the Customer Profile, the research is able to present how well Startup X meets the perceived value of the clients, which addresses RQ3.

3.2 Proposed Theoretical Framework

To conduct this research, a theoretical framework is proposed and presented in Figure 6. Based on previous reasoning, the theoretical framework is structurally based on Value Proposition Design and the VPC, and the three main steps of the theoretical framework are: (1) *Map Value Creators*, (2) *Map Gains & Pains* and (3) *Match Value Creators with Gains & Pains*. These steps are sequentially aligned with the research questions and individually correspond to outlining the VPC's main features of Value Map, Customer Profile and Fit respectively (Osterwalder et al., 2014). However, the theoretical framework diverges from Value Proposition Design and the VPC to some extent in terms of both intention and context in order to suit the specific research purpose.

Value Proposition Design and the usage of the VPC as a tool is applicable for designing new value propositions as well as improving upon existing value propositions (Osterwalder et al., 2014), and the latter is relevant for this research. However, the primary intent of Value Proposition Design of determining Fit affects the usage of the VPC in the sense that outlining the Value Map is dependent on a prior outlining of a Customer Profile; for instance, the gains and pains in the Customer Profile determine whether something may be regarded as a gain creator or pain reliever in the Value Map. While this research is focused on assessing fit, in order to answer RQ3, the research also values the information provided by outlining the Value Map and Customer Profile in isolation from each other, in order to answer RQ1 and RQ2 respectively. Accordingly, the theoretical framework has made certain adjustments to the VPC and a description of the theoretical framework, and how it diverges from Value Proposition Design in general and the VPC in particular, will proceed by presenting the steps of the theoretical framework individually in sequence.
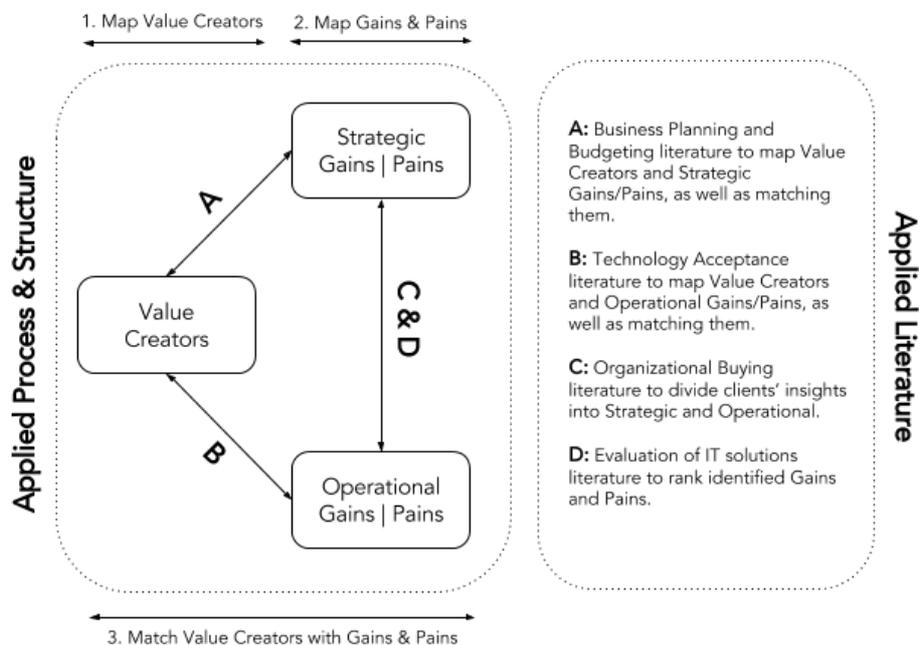
Figure 6 Proposed Theoretical Framework

3.2.1 Map Value Creators

The first step of the theoretical framework structurally corresponds to outlining the Value Map in the VPC. This step is designated to describe how Startup X intends to provide value to clients and answers RQ1 by identifying all value creators, as opposed to gain creators and pain relievers. The value creators are described as the following:

Value Creators: *Explicit features of an existing value proposition which intend to create customer value by creating gains and/or alleviating pains which clients are believed to emphasize.*

Thus, it is evident that one of the fundamental differences between the theoretical framework and the VPC is that the theoretical framework outlines all features that intend to create customer value, while the VPC's Value Map only outline those features that address a gain/pain in the Customer Profile; these are referred to as either gain creators or pain relievers. In other words, the theoretical framework presents all features that may be value-adding, referred to as value creators, while the VPC's Value Map intentionally only presents a selection of those potentially value-adding features. Therefore, the intent of the Value Map is to only list those features that are confirmed to add value and this is not in line with answering RQ1.

Furthermore, it is not perceived as necessary to divide value-adding features into either being gain creators or pain relievers, as suggested by Osterwalder et al. (2014). The distinction between gain creators and pain relievers could possibly enhance the process of matching value-adding features with identified gains and pains. However, since gain creators could address both gains and pains, and pain relievers could address both gains and pains as well (Osterwalder et al., 2014), it is not motivated to say that separating features into gain creators and pain relievers would add any value to the process of finding the fit in this research, in comparison to having a unified category of value creators. Therefore, the theoretical framework also differs from the VPC in the sense that it ignores the concept of gain creators and pain relievers by merging them into one unified category named value creators. Moreover, the theoretical framework overlooks the concept of Products & Services that is part of the VPC's Value Map. Osterwalder et al. (2014) regard the products and services as the underlying objects that a value proposition is based upon and are used to ease identification of features in a value proposition. Thus, it is argued that this is more applicable to cases where value propositions have yet to be specified. However, the research proceeds from a situation where value propositions are existing, specified and thus well-understood, which makes the Products & Services concept redundant.

The operational process of mapping value creators is based on internal sales material and other information related to a startup's offering that is to be investigated. That information is then dissected and analyzed using literature to extract relevant value creators. To identify and map value creators, relevant literature is related to business planning and budgeting processes to, for instance, understand the purposes of planning and budgeting, as well as relevant literature related to technology acceptance, since the usage of an offering is required in order for the startup to provide customer value.

3.2.2 Map Gains & Pains
The second step of the theoretical framework corresponds to outlining the VPC's Customer Profile. It is intended to provide an answer to how companies within the target market perceive value and thus, the step intends to provide an answer to RQ2 by identifying all gains and pains which are emphasized by prospective clients. Gains and pains are described, based on Osterwalder et al. (2014), as the following:

Gains: *All outcomes and benefits that clients indicate to want or desire.*

Pains: *All aspects which clients indicate to be more or less of annoyance.*

The mapping of gains and pains is based on empirical data where prospective clients have had the chance to outline their current situations in terms of needs and problems. Osterwalder et al. (2014) emphasize the importance of identifying different stakeholders and roles within the client organization in a B2B context. This identification has been inspired using literature regarding organizational buying behavior and the Buying Center presented by Webster & Wind (1972). With this in consideration, the gains and pains that are identified and mapped are divided into either being (1) strategic or (2) operational, as visualized in Figure 6.

This explicit separation between strategic and operational gains and pains differs from the VPC's Customer Profile. Among the roles presented in the Buying Center (Webster & Wind, 1972), focus in this research is on deciders, which represent the strategic perspective, and users, which represent the operational perspective, due to their impact on the buying process. Users are important since they often initiate the buying process (Kotler, 2013; Havaldar 2005) while the deciders may act as product champions to drive the buying process (Bonoma, 2006) and they also make the final purchase decision (Keillor, 2007). While Osterwalder et al. (2014) do highlight the need to separate between buyer roles in B2B transactions, they propose separate canvases for each role which creates an issue when an individual can hold multiple roles in an organization (Webster & Wind, 1972). Furthermore, the theoretical framework differs from the VPC's Customer Profile since it does not make the Customer Jobs concept explicit. The reasoning is that while the intention with customer jobs is to create an understanding for what customers want to have accomplished, the research is grounded on a situation where that understanding is already clear on a market with existing solutions and offerings.

In order to map the gains and pains from the strategic perspective, literature considering planning and budgeting in organizations has been included in the theoretical framework. This piece of literature presents the relation between the budgeting process and the overall business planning, as well as purposes with budgeting, in order to understand what decision makers from a strategic perspective values in a budget process and what role systems have to support this process. Furthermore, literature regarding users' technology acceptance has been included in the theoretical framework in order to map gains and pains from the operational perspective. The Technology Acceptance Model (TAM) represents this piece of literature and states in simplified terms that a user's attitude towards a system will determine if the user will use the system or not (Davis, 1986). Since a user's attitude towards a system is dependent on both perceived usefulness and perceived ease of use, focus in this research will be on these two constructs to map gains and pains from an operational perspective.

3.2.3 Match Value Creators with Gains & Pains
The third and last step of the theoretical framework is to match the mapped value creators in the first step with the mapped gains and pains in the second step. The intention is to provide an answer to RQ3 and ultimately fulfill the purpose of the research, which is to determine how well Startup X's existing offering meets the perceived value of the market; thus, the research provides an understanding of how well-designed Startup X's value proposition is according to the needs of the market. This is completed by determining what Osterwalder et al. (2014) as well as Blank & Dorf (2012) refer to as Problem Solution Fit by clearly connecting the VPC's

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Value Map and Customer Profile. However, the theoretical framework differs slightly from Value Proposition Design; the theoretical framework does not make use of the concepts of Products & Services and Customer Jobs, as per mentioned reasoning about mapping value creators and gains/pains, which means that the two concepts cannot be related to each other as part of connecting the Value Map and Customer Profile. Instead, the research explicitly relates the mapped value creators with the mapped gains/pains to clarify Problem Solution Fit. These relations between value creators and gains/pains will be based on the same type of literature as described in the first and second step of the theoretical framework to identify the value creators and gains/pains respectively. In addition, to provide a more intricate nuance to Problem Solution Fit, the research will not only assess a gain or pain to be addressed or not addressed by Startup X's offering in a binomial manner as described by Osterwalder et al., (2014); instead, it is argued that gains and pains may also be addressed partly by a value proposition.

Furthermore, in order to assess whether the most important gains and pains are matched, as the Problem Solution Fit concept emphasize (Osterwalder et al., 2014), the research must first be able to determine the relative importance between mapped gains and pains. By assessing whether or not the most crucial gains and pains are addressed by the mapped value creators, the degree of Problem Solution Fit can be determined and is regarded as an assessment of how well the existing offering meets the perceived value of the market. Therefore, research concerning criteria relevant to consider when evaluating IT solutions is included. These criteria will enable the research to operationally determine the degree of importance of each mapped gain and pain, both strategic and operational, by categorizing these gains and pains with suitable evaluation criteria. By using general evaluating criteria and collecting quantitative data regarding companies' perception of the relative importance of these criteria, it will enable the research to rank gains and pains in a generic and less subjective way to enable prioritization. Considering the fact that each identified gain and pain should be categorized according to a certain evaluation criterion, it is important that the group of evaluation criteria covers all potential gains and pains. The evaluation criteria chosen for the theoretical framework are the factors presented in the case study by Wei et al. (2005). Even though the intended application area of these factors is during the selection of ERP systems, the factors are regarded as suitable for evaluation of other IT solutions, such as planning and budgeting systems, since they are perceived as generic and cover factors related to the system as well as vendor. Thus, the evaluation criteria that will be used in the study are the following: Total Costs, Implementation Time, Functionality, User Friendliness, Flexibility, Reliability, Reputation, Technical Capability and Service.

4. Methodology

In this chapter, the applied research methodology is presented. To begin with, the chosen Research Strategy followed by the Research Process are outlined. Thereafter, the major parts of the research process, Literature Review, Empirical Findings and Analysis of Data, are presented in greater detail. Lastly, a description of the different measures undertaken to ensure the quality of the research is provided.

4.1 Research Strategy

Bryman & Bell (2003) among others distinguish between two clusters of research strategies: *qualitative* and *quantitative* ones. A qualitative research usually takes a descriptive approach where the data collected and the analysis of data is constituted of words to a great extent, while a quantitative research rather puts an emphasis on quantifications. In regards to the research purpose and to generate qualitative material for discussion for Startup X, a majority of the data collected has been gathered through qualitative interviews; thus, the research has primarily been of qualitative nature. However, the research does have quantitative elements in terms of a survey which provides data to confirm parts of the qualitative analysis.

Besides looking at the nature of the data collected and analyzed, the relation between theory and research is interesting to consider when conducting a research. Literature distinguish between approaches where theory guides research, called *deductive* approach, and where theory is an outcome of research, called *inductive* approach (Bryman & Bell, 2003). Bryman & Bell (2003) states that understanding the link between theory and research could be a rather complex process. In regards to this research, from one perspective, a deductive approach has been utilized where a theoretical framework based on a literature review guides the analysis of data. However, Bryman & Bell (2003) outlines that a qualitative study often aims to generate theories rather than testing them, and thus applies an inductive approach. Since the data collected in this research does not focus on confirming existing theory but rather adding new insights, an inductive approach has been applied as well. In fact, most research processes within social research consist of a combination of both a deductive and inductive approach (Eriksson & Kovalainen, 2015).

In terms of research design, this research is designed as a kind of cross-sectional research where data of multiple cases in terms of client data are gathered and analyzed to find themes. Bryman & Bell (2003) defines a cross-sectional design as the following:

> *A cross-sectional design entails the collection of data on more than one case (usually quite a lot more than one) and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables (usually many more than two), which are then examined to detect patterns of association.*
> *(Bryman & Bell, 2003)*

It is further stated that certain research methods are associated with specific research designs. Among research methods associated with cross-sectional design, Bryman & Bell (2003) mention surveys and structured interviews. Based upon this, a survey and semi-structured interviews have primarily been utilized in the research to collect empirical data.

4.2 Research Process

As earlier concluded, the research is primarily of a qualitative nature and the research process adapted is thereby influenced by the model proposed by Bryman & Bell (2003) which presents the main steps in qualitative research. Besides suggesting important steps such as formulate research questions and collect relevant data, the model emphasizes an iterative process where it could be necessary to go back after an initial analysis and, for instance, revise research questions and collect further data. The process applied in this research is presented in Figure 7, where intended iterations are visualized by two way arrows connecting the three phases Orientation, Input and Output.
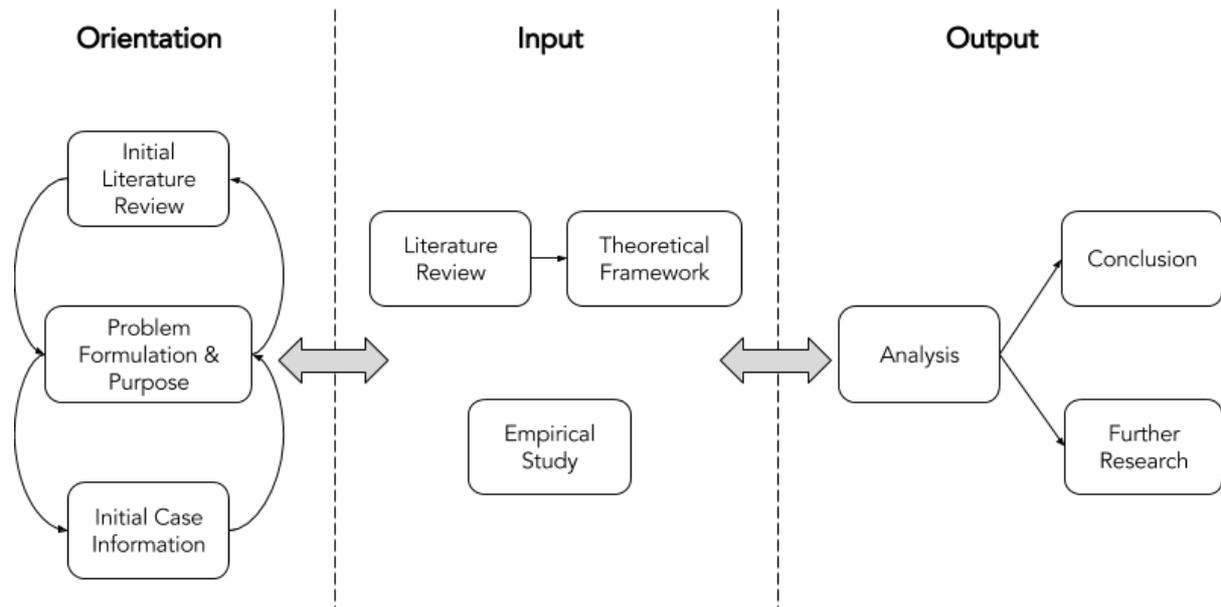
Figure 7 Research Process

The initial phase, *Orientation,* was characterized by iterations consisting of initial reviews of relevant literature and initial meetings with Startup X, in order to eventually come up with a problem formulation and a purpose with the research. After the problematization was clear and a first proposal of the research purpose had been formulated, the research entered the *Input* phase. A more substantial literature review was initialized in the very beginning of this phase, resulting in multiple revisions of the research purpose. Eventually, contact was made with potential interviewees and an extensive process of collecting data began. The literature review was proceeding in parallel with the data collection, resulting in a theoretical framework to enhance the analysis of the data collected. When the empirical data had been collected and the theoretical framework was completed, the research entered the *Output* phase. In this phase, an analysis of the data collected, facilitated by the theoretical framework, resulted in qualitative discussion material for Startup X as well as some suggestions for further research.

4.3 Literature Review

According to Easterby-Smith et al. (2015), a literature review outlines what has already been researched within a specific area of research. This research applies a traditional literature review by summarizing an existing body of literature, as opposed to a systematic literature review which would exhaustively outline the entire body of literature (Easterby-Smith et al., 2015). As previously described in the research process section, this specific research has chosen to conduct a literature review in the *Orientation*. This contributed to a basic understanding for the research area, which is necessary to clarify and put the research into context (Easterby-Smith

et al., 2015). For instance, the literature review allowed for a clarification on the breadth of literature regarding value proposition design as well as customer value and how these areas of literature were interrelated with adjacent areas of literature regarding, for instance, business modelling and customer development. Furthermore, the literature review was also necessary to conduct in the orientation phase in order to gain a proper initial understanding of the research area to sufficiently scope the research to existing resources as well as to define and formulate a problem at hand. In other words, the literature review contributed to deriving a research purpose.

In addition, the literature review was complemented and was continuously worked on in an iterative manner in the following *Input* phase of the research process; this is aligned with reviewing literature alongside the entirety of the research process (Easterby-Smith et al., 2015). The research purpose and the interrelated research questions were thus gradually changed and clarified as the research progressed, as a means to refine the research topic (Easterby-Smith et al., 2015). The literature review as a construct was intended to not only provide an understanding for the research but also a basis to conduct an empirical study and the following research analysis. The iterative approach was applied to ensure a sufficient degree of comprehensiveness of the literature review, without turning it into a resource exhaustive systematic literature review that takes all relevant studies into account (Easterby-Smith et al., 2015), in order for it to function as a basis to derive a theoretical framework from. The theoretical framework then contributed to the execution of the empirical study by focusing on the right subjects to extract proper data and also enabled the research analysis to be conducted in a satisfactory manner. The comprehensive literature review enabled the identification of relevant gaps or divergences in research in relation to this specific research. For instance, the proposed theoretical framework is based on the literature review and presents relevant existing literature and proposes means to adjust divergences in existing literature; thus, the literature review justifies the research to be undertaken (Easterby-Smith et al., 2015).
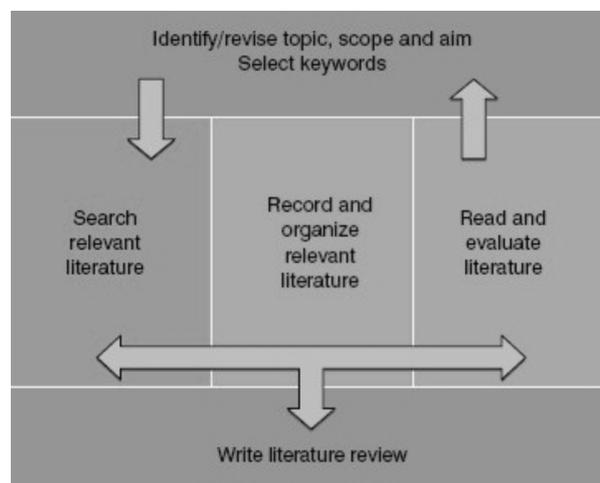
Figure 8 The literature review process (Easterby-Smith et al., 2015)

As can be seen in Figure 8, the literature review process can be separated into three interrelated stages (Easterby-Smith et al., 2015). In the first stage, an initial topic of the research was defined. This is important in order to be used as a baseline to output selected keywords as search terms that may be applied in the next stage of the review process, which is to find and record relevant literature. In this research, keywords that were applied as search terms were derived based on key terms in the initial research purpose in regards to, for instance, customer value and startups. These keywords were then used primarily to identify electronically available literature through sources such as Google Scholar and Chalmers University's electronic library

database; keywords were also used to identify physical books and literature in the physical library. The research recognized that keywords would be a good start for a literature search but tracing citations as a continuation of that initial search process was the primary search strategy to identify original research. This may also be referred to as snowballing (Easterby-Smith et al., 2015) and was helpful in identifying and organizing literature according to key researchers and their areas of literature. By conducting this, a literature base was formed with time where literature had been assessed in relation to relevance in the research context and to previous citations. In the last stage, writing the literature review, the following areas of literature were included in the review: Business Modelling; Value Proposition and Customer Value in general; Customer Development; Evaluation of IT Solutions; Organizational Buying; Technology Acceptance; and Planning and Budgeting.

4.4 Empirical Findings

To answer the research questions and thus fulfill the purpose of the research, data has been gathered using three different sources: material from Startup X, client interviews and client survey. Table 5 presents how each of these data sources relates to the research questions.

Table 5 Relation between research questions and sources of empirical data

	RQ1	RQ2	RQ3
Startup X Material	X		X
Client Interviews		X	X
Client Survey			X

Data regarding Startup X is based on internal data and sales material in order to understand their solution and what they are trying to emphasize in their offering. However, the larger part of the empirical data has primarily been gathered through interviews with companies within the targeted market, i.e. client interviews, in physical meetings and video conferences as well as by phone. In total, 25 interviews of approximately 30 minutes each have been conducted with companies on the market, and these have no previous affiliation with Startup X. All companies operate in Sweden and they all have resulting yearly revenues, or belong to larger corporate groups, that exceed 1B SEK as of 2015. Revenues of this size has been the only criterion when searching for participants, which is line with the market that Startup X aims for. To have some guidelines to proceed from when trying to find interviewees, a list of the largest companies in Sweden in terms of revenue were used. Referrals has been utilized during the process as well, similar to what the Goodman (1961) defines as snowball sampling. The group of interviewees that represent the clients is rather homogenous, see Table 6, and they all fall into one of the following two role categories: (1) Chief Financial Officer or (2) business/financial controller on a group or company level. Employees in these types of positions has been targeted due to their insights in the budgeting process, at a strategic as well as operational level. Interviewees has been contacted through e-mail, using addresses found on their company website or their LinkedIn profile.

Regarding the actual interviews, an interview template is presented in Appendix A and was applied as a basis for each interview. Questions regarding the budgeting process and what clients perceive as problematic were frequently asked, since clients are the ones knowing about their own problems (Blank & Dorf, 2012). In addition, a section regarding procurement was included in the interview guide, as clients know how the procurement process works in their organization (Blank & Dorf, 2012). However, the interviews were of semi-structured nature and therefore varied from interview to interview. As Bryman & Bell (2003) outline, semi-

structured interviews often proceed from a predefined interview schedule with questions, but where the interviewer tend to change the sequence of the questions as the interview progresses as well as ask follow-up questions.

Table 6 Client interviews

Company	Position
A	Chief Financial Officer
B	Chief Financial Officer
C	Chief Financial Officer
D	2 x Business Controller
E	Chief Financial Officer
F	Group Business Controller
G	Chief Financial Officer
H	Director of Controlling
I	Group Business Controller
J	Chief Financial Officer
K	Business Control Director
L	Chief Financial Officer
M	Business Controlling Director
N	Chief Controller + Controller
O	Controller
P	Chief Financial Officer
Q	Senior Business Controller
R	Chief of Business Control (temp. CFO)
S	V.P. Business Control + Group Controller
T	Chief Financial Officer
U	Chief Financial Officer
V	Finance Manager
W	Director of Control
X	Controller
Y	Head of Business Control and Analysis

A survey targeting the interviewees, i.e. a client survey, was conducted in order to complement the qualitative data gathered from interviews with quantitative data. Data collected through the survey enabled a prioritization of client needs which could be difficult to extract from interviews, since knowing your own needs could be one of the toughest challenges during the IT procurement process (Nickson, 2008). The survey consisted of one question asking the respondents to prioritize nine factors relevant for evaluation of IT solutions. These nine factors were identified and gathered during the literature review. Interviewees answered the survey either right after the interview on a tablet provided by the researchers, or later on using a web form distributed through e-mail. 22 out of the 25 interviewees responded to the survey.

4.5 Analysis of Data
As outlined in the previous section, the research makes use of both qualitative and quantitative empirical data. A majority of the data is of qualitative nature and outline Startup X's offering as well as the situation of the clients through interviews that have been held; the rest of the data is quantitative and comes from the client survey. Therefore, the data analysis needs to be handled according to these types of data.

4.5.1 Qualitative Data Analysis

Data of qualitative nature can be analyzed, or framed, in numerous of different ways, and two of the most prominent approaches are content analysis and grounded analysis (Easterby-Smith et al., 2015). Even though the two analysis approaches may be seen to lie on a continuum, since they share multiple methods, they can be seen as two competing and separate alternatives. This research is aligned with the grounded analysis approach as it is considered to be more open and the analysis is more intuitive. The reason is that while the content analysis intends to frame qualitative data according to a pre-defined structure, for instance according to pre-existing theory to elaborate or test that theory, grounded analysis intends to build theory based on, or "grounded" on, the collected data itself (Easterby-Smith et al., 2015). Thus, grounded analysis is more inductive and is more applicable when exploration is intended without being constrained to pre-conceived research and this is aligned with this research which, for instance, intends to explore potential client's opinions on the market for business planning and budgeting.

Table 7 Summary of the seven steps of a grounded analysis by Easterby-Smith et al. (2015)

Analysis Step	Description
1. Familiarization	Gain an overview of all available data, unrecorded as well as recorded. Concentrate on the focus of the study, what the data suggest and where the data come from.
2. Reflection	Initial sense-making of all the data where data is contrasted to previous research as well as common sense.
3. Open Coding	More detailed sense-making of all data, where pieces of data are summarized and categorized in order to structure a large amount of data.
4. Conceptualization	Aim is to identify patterns and themes in the data based on the codes and categorization of data developed in the previous step.
5. Focused Re-coding	As the name of the step suggests, this is somewhat of an iteration of Step #3 but more focused and emphasizes a further detailed coding to understand the data.
6. Linking	When the data has become clearer through the framing in Step #3-5, an analytical framework should be possible to outline by conceptualizing how the data relates to existing theory.
7. Re-evaluation	As with every step, it is important to review the analysis for instance based on feedback from other researchers.

Since the qualitative data analysis has followed the grounded analysis approach, the analysis process can be described according to the seven steps of grounded analysis (Easterby-Smith et al., 2015), which are summarized in Table 7. In the first step, which is referred to as (1) familiarization, all qualitative data was collected and gathered into one place. The research used online tools to store all collected data and this ensured convenient access and also secure backup of the data; all data in regards to understanding Startup X and its offering was stored separately from all client interview data. Since all relevant data was stored in the same location, it became easier to gain an overview of all the material. Furthermore, in regards to the client interview material, the researchers became increasingly familiar with the data as time passed since the raw data in the form of each audio file had to be processed continuously as the empirical data was collected. This may also be referred to the second step of the analysis process, (2) reflection, since it becomes intuitive to reflect upon the data from specific client interviews in

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relation to others. In the third to fifth step, i.e. (3) open coding, (4) conceptualization and (5) focused re-coding, the bulk of the analysis work in terms of effort and time was completed.

While the data regarding Startup X was relatively categorized and thus structured to begin with, the client interview data had to be processed rigorously. The data for each client interview was run through separately in order to identify contextual constructs, or codes, that represented pieces of data. All identified codes were processed using post-it notes since the intention was to identify patterns and themes across the data; thus, the post-it notes enabled easy categorization of similar codes. This led to categories of data being built with time and the analysis could soon see similarities or disparities across the data from the interviews using, for instance, different colored post-it notes. As a means to understand client intentions as a group, and understand the market the clients are in, the intention of the research is to present both similarities and disparities from the interviews. In the following step, (6) linking, the analysis made use of a relatively clear structure of data about both Startup X's offering as well as client data in order to produce both mapped value creators and mapped gains and pains, and both were related to existing theory from the literature review. This link to the literature review also enabled the research to match value creators with gains and pains, which was a required step to answer the last research question. Finally, as the last step (6) re-evaluation highlight, it is worth noting that while the analysis process steps are outlined as linear, the research conducted the analysis in a somewhat iterative manner. Steps had to be re-completed at multiple points, especially step three to six, for instance based on the feedback from the research supervisor.

4.5.2 Quantitative Data Analysis
While qualitative data is generally time and effort intensive to acquire in volume, a fundamental feature of quantitative data is its volume (Easterby-Smith et al., 2015). However, volume of data leads to a challenge in processing or making inferences about populations based on the sample data. In this research though, the emphasis is not on a large volume of quantitative data in order to justifiably make inferences about a large population. Instead, the quantitative data has been designed in order to complement the qualitative data analysis and, in some respect, confirm the qualitative data. Thus, the quantitative data itself is kept to its bare essentials which means that the analysis is kept simplistic by only having numerical answers to one survey question to analyze; the data describes how clients rank different criteria in an evaluation of an IT solution investment. Moreover, it is natural to understand how the data for each criterion rank on a scale (Easterby-Smith et al., 2015) and in order to do so, the research presents the mean results in terms of an "Average Importance Score". The mean was used as it takes all clients' input into consideration, without disregarding outliers or any maximum or minimum values.

4.6 Research Quality
In order to ensure that research will be useful, the quality of it needs to be assessed (Easterby-Smith et al., 2015). The quality of research refers to the assessment or evaluation of research that has been conducted and to do so, two commonly applied assessment criteria are validity and reliability; the criteria are concerned with ensuring integrity and reliability of the research respectively (Bryman & Bell, 2003). However, the relevance of these criteria for qualitative research have questioned since, for instance, the definitions of the criteria are more concerned with aspects which are more related to quantitative research. This is of concern for this research, which is primarily qualitative, and therefore an alternative means to assess research quality is applied. This is based on different aspects of trustworthiness, which are: credibility, transferability, dependability and confirmability (Bryman & Bell, 2003).

4.6.1 Credibility

Credibility is the equivalent of internal validity in quantitative research and the essence revolves around ensuring a correct understanding of observations (Bryman & Bell, 2003). It is necessary to ensure that the theoretical ideas, which are generated as an output of the research, is matching the actual observations which the research is based upon. First and foremost, those client interviews which were allowed to be recorded enabled raw data to conveniently be re-assessed multiple times to increase the credibility of the research. However, one aspect that may impact credibility negatively is that most client companies were only represented by one individual for the interviews. In addition, all interviews were held in Swedish, which means that the raw data in terms of recordings have been translated to English based on the interpretations of the researchers, in order to provide the research with empirical data. While this may impact the data credibility negatively, the research applies an open and more explorative approach where commonalities and trends across multiple interviews or data sources were examined. Since this examination was based on multiple sources of data, in combination with assessing existing literature, it can be said that facts and interpretations were triangulated and increased the credibility of the research (Bryman & Bell, 2003); individual data points which may be negatively affected by the single representation became less of a factor in the output of the research due to the triangulation. In addition, the output of the research includes determining the relative importance of different aspects within planning and budgeting that clients emphasize. Rather than only relying on subjective interpretations of the qualitative data from the client interviews to make conclusions, the research complemented that data with quantitative survey data which clients entered on their own. Therefore, it can be said that the research confirmed the understanding of the qualitative data to some extent and thus increased the internal validity. Furthermore, all quantitative survey data was kept in its original state without being processed or manipulated since clients themselves entered their answers through a survey application. Thus, the understanding of the observations was never in risk of being challenged by a subjective interpretation of the client answers, and this increases the credibility of the research.

4.6.2 Transferability

This aspect of trustworthiness is related to external validity (Bryman & Bell, 2003) and how generalizable conclusions are. It is made clear that qualitative researchers are often unable to know whether or not their generated theories are able to be transferred to other settings than the ones studied (Easterby-Smith et al., 2015). This may be attributed to the contextual uniqueness of specific settings (Bryman & Bell, 2003) and this argumentation is in line with this research, where the uniqueness is framed according to the scope and delimitations of the research. Conclusions regarding the value that Startup X's offering provides is constrained within a setting based on the specifications of Startup X as well as its offering, which in overview is a startup that provides a budgeting and planning solution. Furthermore, conclusions regarding the perceived value of the market is constrained within a setting based on the specific market of Startup X, which is geographically delimited to Sweden and only concerns client companies within a certain revenue bracket. Therefore, the setting which have been studied is argued to have been relatively specific and unique. Thus, in line with qualitative research in general, it is suggested that this research cannot be confirmed to be transferable to other settings. However, it is suggested to assess transferability through further studies that expands on the research's specified setting; for instance, other geographical regions and client companies within other revenue brackets could be assessed. By comparing the conclusions generated from those further studies with this study, transferability can be determined.

4.6.3 Dependability

Dependability is the equivalent of reliability in quantitative research (Bryman & Bell, 2003). In regards to observations and ensuring a common understanding of the data, the researchers made sure to jot down their thoughts during each interview and discussions were always held after each interview to summarize all immediate points of reasoning. This lead to an initial understanding of the observations of both researchers, which may or may not have been in line; if there were any divergences in the understanding of the observations, the researchers re-assessed the raw data using those recordings that were available to settle the understanding. Only after these steps, each client interview was processed one by one to provide the research with empirical data. Furthermore, to ensure a comprehensive research process that is able to be replicated if need be, a few measures were implemented. In regards to data collection preparation, the reasoning behind the choices of client representatives are described and specified which may not lead to a new study choosing the exact client companies and representatives, but most certainly similar companies and representatives with the roles specified. Moreover, in regards to the data collected, some client interviews were recorded which means that empirical data can be reproduced based on these recordings; for the remaining interviews which were not recorded, the empirical data was summarized for reference. Lastly, to enable a replication of the study, the research process is outlined. One of the most essential process steps of the research, in order to arrive at the conclusions of the research, is the analysis and the analysis process is outlined through the research's theoretical framework. Therefore, it is argued that the research has taken numerous actions to increase dependability.

4.6.4 Confirmability

This aspect of trustworthiness is concerned with ensuring that the research has been conducted in good faith (Bryman & Bell, 2003); it should be clear that the researchers have not had any intentions of controlling or affecting the research in a certain direction. From the researchers' point of view, the research is conducted primarily for academic purposes where the case of Startup X functions to enable this. To be fully transparent, it is important to state that the researchers have a prior relation with Startup X, which is also how Startup X ended up being a part of this research. However, the impact on Startup X or any of the client companies interviewed is not of main concern considering the academic focus. Moreover, no data can be traced back to a specific company which further limits possible impact on the companies. There are no previous affiliations between Startup X and the client companies; the specific client companies were chosen solely based on the decision of the researchers and neither did the researchers have any previous affiliations with any of the client companies or its representatives. Therefore, it is argued that incentives to affect the research in any specific direction are, at most, few and unimposing.

5. Empirical Study

In this chapter, the empirical findings concerning Startup X and the market are presented. To begin with, findings outlining Startup X and its offering are provided. This is followed by a summary of the findings regarding the market that Startup X targets based on company interviews. Lastly, results from a client survey is presented.

5.1 Startup X

In this section, information about the startup is presented. First off, general information about Startup X is described which is followed by information about the startup's product and service offering. The information is based on sales material and other internal data from Startup X.

5.1.1 The Startup

Startup X was founded in 2015 and offers a software solution for the B2B planning and budgeting market. During 2014, the project was initialized by a consultancy firm, hereby referred to as Firm Y, and was at first developed as an in-house project prior to the foundation of Startup X. Firm Y is still to this day highly involved in Startup X and aside from functioning as an implementation partner for Startup X, the two organizations also share the same CEO.

Regarding Firm Y, it works primarily within the area of business intelligence (BI) and the main part of its work is conducted in the BI solution QlikView. In the organization's daily work with QlikView and its foremost purpose to analyze and present data, it became obvious that client companies often lack satisfying solutions for data input in their business planning. Firm Y realized that a major part of its clients actually relies on Microsoft Excel in their planning process work which is far from optimal, and this became the start of Startup X.

In 2016, Startup X had a handful of commercial pilot projects dealing with budgeting processes in order to develop the system in line with the needs of specific clients. Version 1.0 of the software is planned to be ready in late 2017 and at that time an official market launch will be conducted. Startup X plans to offer their solution using a Software-as-a-Service model and larger companies will primarily be targeted, since the software is considered to be flexible and is believed to add most value to complex budgeting processes where a larger amount of people is involved.

5.1.2 The Offering

Startup X's offering, hereby referred to as the offering, is developed in order for organizations to manage different planning scenarios in line with the processes of specific organizations; hence, the solution intends to adapt to fit different types of business logics in various types of industries. Moreover, the offering is not restricted to solely support budgeting and forecasting since it can be adapted to different types of planning. This flexibility is based upon that dimensions are uniquely created and combined for each implementation, which implies a setup that is in line with the business structure of a firm. User accesses in the system can further on be configured according to these dimensions based upon client needs. Furthermore, a filter function in the offering allows employees to plan on different levels of the organization by either looking at numbers for a business unit in general or by diving deeper into the numbers and filter on specific profit centers.

Startup X highlights that people expect simplicity and intuitiveness in technology they use in their daily life, which is something the startup aims to provide in people's professional environment as well. In an attempt to follow trends and user expectations in today's society,

the offering has adopted an app concept. This self-explaining app concept is developed from a user perspective rather from the technology itself and intends to make all steps in the planning process more manageable and easy to understand for everyone involved in the organization. To further enhance the user experience, the offering exploits the widely-spread use of Excel by providing an input interface similar to Excel. This intends to create a sense of familiarity and perhaps also to facilitate the acceptance process of the solution in the organization. In addition, it is easy for people throughout the organization to access the solution regardless of where they are since it is provided in the cloud; this means that the offering is accessible through the web browser from any computer. A solution provided in the cloud also implies that client installations can be conducted remotely. Furthermore, the offering guarantees secure data management through their cloud services hosted on the Microsoft Azure platform.

One of the cornerstones in the offering is the calculation engine which intends to support even more complex calculations than Excel. This is seen as a necessity to offer in order to support advanced business logics without having to involve Excel files with formulas that are difficult to maintain. Another function is the ability to restrict input to solely desirable ones such as specifying a range of numbers that are accepted; an ability to restrict input in this way intends to bring control, without reducing desired flexibility, which is something that could be difficult to achieve in Excel. The offering also allows for communication within the tool, both horizontally and vertically. Functionality to chat with specific users is offered as well as leaving comments accessible for all users within a certain planning step. Similar to Excel, it is also possible to leave comments on specific data points.

A lot of focus has been directed to the user of the solution in terms of employees inserting data in the planning process, but another user of the solution is the administrator. The offering strives to offer a smooth user experience for administrators as well by providing a simple administration interface where it is possible to, for instance, configure apps, add new users, add or modify accesses, administrate calculations and create new plans. In addition, it is possible for an administrator to import Excel sheets or CSV files directly in the administration interface. The ability to act as other users is another function in the offering which intends to facilitate the work of an administrator in terms of support, since the administrator easily can replicate problems experienced by people in the organization. Furthermore, the offering's API aims to enhance a smooth integration with other systems in order to allow data transfer to and from the offering, for instance by extracting data from a finance system for input or later on export data to a BI solution for analysis and presentation.

5.2 Market Insights

In this section, data related to targeted companies is presented. To start off, qualitative data from interviews with prospective client companies has been aggregated and summarized to present the general empirical findings about the market. These findings have been separated into (1) a strategic perspective and (2) an operational perspective; the strategic perspective concerns findings that may be more relevant on an executive level and for decision makers while the operational perspective represents findings that may be more relevant for operational users of the solution. For more detailed data from the client interviews, see Appendix B. Finally, results from a client survey is presented.

5.2.1 Strategic Perspective

In general, clients put an emphasis on strategic planning rather than on just budgeting. While budgeting is usually conducted for a limited period of time, which in most cases are for the next fiscal year, clients base their budgeting work on longer term and more strategic business

planning. Thus, the clients have a need to communicate strategic directives or guidelines that operational budgeting can make use of. Furthermore, some of the clients' markets are exposed to important macro-economic factors due to, for instance, their global presence, which in many cases need to be assessed with assumptions and also have to be made clear in order to conduct budgeting. Currently, most clients communicate guidelines in an unstructured manner outside of the budgeting solution through meetings and discussions and the same applies for communication of market assumptions.

Another point of emphasis is that clients' organizational structures are generally complex with a multitude of different types of operations within a larger corporation. Therefore, budgeting work is required to be adaptable and budgeting solutions that are used need to have the ability to be shaped completely according to the needs of clients; these needs are not only referring to differences in organizational structure but also in regards to differences in ways of working and lines of business. Furthermore, solutions that support the budgeting process also need to output the budgeting work in a satisfactory manner through reports that reflects the organization as a whole. However, it is highlighted that the purpose of budgeting is not to output satisfactory numbers in a presentable way, but rather to provide material that may be used for decision-making. In line with this, some clients outline the current usage or an ambition to apply a more dynamic way of planning their businesses through rolling forecasts.

> *"The purpose is to create material to base decisions upon, not necessarily to present nice graphs."*
>
> – Company H

While most clients do have some designated budgeting solution in place to support the budgeting work, effectively all use Excel to some extent. However, the clients do highlight the ambition to implement a more comprehensive solution with all components and functionality in place to support and manage business planning as a whole. This enables an organization to implement standardized ways of working with budgeting that are designed to optimize the process in terms of usefulness as well as time efficiency. Furthermore, since many clients conduct budgeting work with a decentralized approach per operational unit, clients need the ability to evaluate how progress is being made; most clients conduct extensive budgeting where the entire process takes multiple months to complete. Therefore, clients do have a need for evaluating budget work progress and this progress must be made clear in order for actions to be taken. Different ways of visualizing the budgeting process are mentioned as a means to evaluate complete budget progress and follow the flow of work. Additionally, progress may also be supported through approval management if individual budgets, for instance per cost unit, can be handled separately.

> *"The ability to manage the whole business planning process refers to benefits of using one single solution, where all functions from insertion of data to presentation of data are all managed in one integrated solution."*
>
> – Company B

For the absolute majority of the clients, the large size and complex organizational structure mean that budgeting needs to be conducted piece by piece for every organizational subunit which are then aggregated together; for instance, every department within a client's organization establishes a budget and each department budget is thereafter consolidated into one. Since this aggregation of budgets is conducted in a complex manner on multiple

organizational levels, for instance per regional area all the way up to a national level or from operational units per business units all the way up to a corporate level, the consolidation mechanism itself needs to be solid. The consolidation mechanism is further emphasized in organizations that make corporate changes relatively frequently since that affects how aggregation should be conducted.

When it comes to solutions that supports the management of the budgeting process, an ability to self-sufficiently administrate the solution within the organization is outlined as important by clients. This is, for instance, regarding managing users, user accesses and other settings but also more budget-related functionality without too much involvement from either IT or external consultants. However, in regards to the actual solution itself, it is essential that the solution is able to both import and export data. The budgeting work makes use of different input data that is stored in multiple separate systems or databases within the IT-landscape in organizations, for instance in ERP-systems, CRM-systems or finance systems. Furthermore, as the output from the budgeting work should be used as decision-making material, budget data needs to align with, for instance, BI tools to make sense of the data.

> *"In order to maintain the system, it is important to build system competence within the company, including system users with ability to administrate the system with support by consultants."*
>
> – Company T

When it comes to specific attributes or functions that are valued in relation to an investment in a budget solution, it is clear that clients look at a wide variety of aspects before making a decision. However, the most important aspect to consider is said to be the solution itself and more specifically how it is able to support the budgeting work. In addition, data safety is mentioned to be of essence and when it comes to costs-related aspects, it is important for the payment structure of the solution to be clear and concise. In regards to suppliers or vendors of specific solutions, clients do not emphasize vendor-specific attributes as highly as solution-specific attributes and some clients even disregard aspects such as vendor size or brand. However, the clients generally distinguish between two main types of vendors: the larger brand-name vendors and the smaller local vendors. Larger brand-name vendors are easier to find support and help for, for instance from external consultancies. However, the larger vendors themselves are not necessarily dynamic and do not release the newest functionality quickly. Furthermore, they are difficult to talk to and get a hold of.

> *"[...] the tool is assessed from a multitude of aspects from usability to vendor capability. However, emphasis should be on the value that the tool actually provides in practice."*
>
> – Company I

Smaller local vendors are considered to be easy to build relationships with. Building relationships with vendors is essential in order to shape a solution according to the needs of the clients and the relationships are not dependent on the size or brand of a vendor; the reputation or size may however, for instance, affect initial willingness to build relationships through a large amount of reference cases for large vendors. Smaller vendors are considered to have high technical knowledge and a high degree of reliability which means that support can be given in a quicker yet effective manner. This allows for continuous improvements of a solution including version upgrades and will also benefit the implementation process of a solution. In

many cases, the difficulties in the implementation process of a budgeting solution is viewed as underestimated and may affect the success of a budgeting solution.

> *"[...] factors related to the vendor of potential systems will affect evaluation. [...] the size and reputation of vendors do not have an explicit impact on whether a vendor is chosen, but the relationship and the confidence in the vendor is important. Therefore, reference cases and experience do have an impact and these may be a function of vendor size and reputation."*
>
> – Company U

5.2.2 Operational Perspective

From an operational perspective, most clients emphasize the fact that it should be easy for each individual to conduct their part of the budgeting work. Budgeting is a process involving a large amount of people in the organization, from different departments and business units. Indifferent of the role an employee possesses, or which business unit an employee belongs to, all involved employees in the budgeting process should perceive their budgeting work to be as smooth as possible. Thus, in terms of using a solution during the budgeting work, user friendliness is seen as a critical factor. On an operational level, conducting a budget and inserting numbers is not one of the main tasks to complete; it is rather something an employee should spend as little time as possible on. A user-friendly interface would induce this and a project manager, for instance, could instead spend more time on the project itself.

> *"The tool utilized has to be user friendly with few options, since project workers should spend as much time as possible on their main tasks and using the system should not require knowledge in finance."*
>
> – Company J

Another aspect highlighted by multiple clients is the need of financial knowledge to use budgeting solutions, since the level of this type of knowledge varies throughout organizations. Hence, a solution for budgeting should not require any deeper knowledge within finance and should be easy to use and navigate without a financial background. Furthermore, multiple clients outline that finance and planning solutions in general often lack user friendliness. However, many of the clients have used the same solutions for several years, which they emphasize as a major benefit since the employees have become used to the solution. This reasoning is also related to why many organizations think Excel is good from a user perspective based upon that most employees are familiar with Excel to some extent.

> *"Infra's [a budget solution] ease of use and the fact that employees within the company are used to the solution is another positive that cannot be disregarded."*
>
> – Company I

Proceeding from the perspective that all people involved in the budgeting process should perceive their budgeting work as smooth, clients emphasize that templates in a budgeting solution have to be adaptable to individual business units; business units within the same organization can differ significantly in structure and the type of work performed. Hence, templates have to differ as well in order to be easy for employees to use, i.e. templates adapted to a specific working process will make it easier for employees involved in the budgeting process to understand where data should be inserted. A common notion among the clients is

that a budgeting solution should be as flexible as Excel, which is also why multiple clients have chosen budgeting solutions relying on macros in Excel. Considering the wide use of Excel in the budgeting process, clients are concerned with formulas that can easily be manipulated by mistake as well as with data input not being restricted to desirable ranges. In addition, updates of data are not necessarily shared automatically and sending different versions of Excel sheets back and forth is perceived as unreliable. Organizations require that multiple users can insert numbers at the same time, which could be tricky when using Excel. Lastly, besides perceiving the management of Excel sheets as being risky, clients also regard the management of Excel sheets as a time-consuming process.

> *"The process of creating budgets for each plant is managed in Excel, which is not perceived as optimal. Plenty of extra work in terms of sending Excel files back and forth is done today. Managing 100 cost centers in Excel with input made manually requires a great piece of effort, it also restricts which people that actually could work with the budget process."*
>
> – Company P

Keeping a high level of detail is another aspect that influence how time-consuming the budget work becomes, which clients seem to prioritize differently. One group of clients are promoting high involvement of people on operational levels in the budgeting process and promote solutions with support for high levels of detail. These organizations value the ability to track numbers with the purpose of data follow ups, data analysis and making operational improvements. The other group of clients sees a high level of detail as unnecessary in relation to the value it brings. Organizations of this opinion instead emphasize the importance of last years' numbers and the ability to present reference data in the solution. However, presenting reference data is something that clients in general expect as an existing function in a budgeting solution. To summarize, the clients' thoughts regarding detailed budgeting, it is fair to say that detailed budgeting concerns a balance between the value it brings and the effort it requires.

> *"Site managers' challenges concern the balance between how detailed to be in their budgets and the time allocated to do the budget work. Considering the fact that one site manager could be responsible for 900 projects during a year, it is obvious that balancing detail level and effort in terms of time when budgeting is critical."*
>
> – Company J

Regarding communication in the budgeting process, a majority of it is conducted through physical meetings and e-mail. Some clients perceive it as valuable to put some of this communication within a budgeting solution, since managing e-mails and documents often imply extra work; for instance, an ability to leave comments within templates is mentioned as being desired. Furthermore, communication in terms of visualizations in order to enhance interpretation of data is seen by multiple clients as an important aspect to consider. It is important to ensure that involved people in the process actually understand the implication of the numbers inserted and if they are realistic or not, which could be enhanced by graphs and visualizations of next actions. Support for scenario analysis is also a specific function required by many clients in order to see how inserted numbers affect the outcome.

> *"It is of importance to not just aggregate numbers, you have to apply an analytical management perspective. In other terms, an*

understanding and sense of what is realistic is very important to achieve
on all levels in the organization."

<div align="right">– Company T</div>

5.2.3 Client Survey: Ranking of Evaluation Criteria

All interviewees have had an opportunity to anonymously respond to a survey where they were asked to rank the importance of nine different evaluation criteria in regards to a budgeting solution investment, where the most important criterion is ranked with a score of 1 and the least important with a score of 9. The survey is used to assess how clients prioritize different aspects of budgeting solution investments in an aggregated and more objective manner. Out of the 25 participating companies, 22 decided to respond to the survey and the average results for each evaluation criterion, referred to as an "Average Importance Score" is presented in Table 8. The survey itself and more detailed results from the survey is presented in Appendix C.

<div align="center">Table 8 Summary of Survey Results</div>

Evaluation Criteria	Average Importance Score
Total Cost	4,5
Implementation Time	7,09
Functionality	2,50
User Friendliness	2,14
Flexibility	3,91
Reliability	3,82
Vendor Reputation	7,50
Technical Capability	7,09
Service	6,45

6. Analysis

In this chapter, the research purpose is fulfilled by answering all three research questions. To start off, RQ1 is answered by mapping value creators and RQ2 is answered by mapping gains and pains. Thereafter, RQ3 is answered by an assessment of the matching between mapped value creators and mapped gains and pains.

6.1 Map Value Creators

In accordance with the outlined theoretical framework, the first process step is to map the value creators of the offering. This is based on the emphasis on describing the different aspects and features of a value proposition in a structured manner (Osterwalder et al., 2014). Value creators represent both gain creators and pain relievers and, in principal, mapping value creators is conducted to understand how the offering is currently intended to provide customer value. Therefore, a mapping of the identified value creators of Startup X's offering provides the answer to the study's RQ1 and is presented in Table 9 below.

Table 9 Map of Value Creators

Value Creator	Description
Planning Scenario Management	Ability to support the management of multiple types of planning scenarios.
Planning Levels	Supports planning on different organizational levels through functions such as filtering and consolidation.
Unique Dimensions	Creation of unique dimensions allows for an ability to adapt the offering to fit different types of businesses according to specific business logics.
Calculation Engine	Supports complex calculations that are required based on more advanced business logics.
API	Enables smooth integration with other IT solutions.
Cloud Service	Allows for better accessibility for users and safe data management.
App Concept	Self-explaining app concept that is developed from a user perspective.
Excel-based Input Interface	Similar to Excel to create familiarity and induce acceptance.
Input Restriction	Ability to restrict types of input for control.
Chat	Ability for users to communicate with others in the workflow.
Comment Functionality	Supports the creation of comments for communication purposes.
Administration Interface	Enables a smooth user experience for administrators.
Role Simulation	Support for administrators to act as other users.
Small & Flexible Vendor	An ability to use the smaller size of the vendor and its relationship with Firm Y to quickly adapt to the needs of the clients.

In an organizational context, numerous value creators have been identified. The offering provides the value creator *Planning Scenario Management* which supports multiple types of planning scenarios beyond budgeting and this functionality is key since planning is one of the main purposes of budgeting (Drury, 2013; Ax et al., 2009). The planning and budgeting solution is also enabling the value creator *Planning Levels* which supports employees in conducting

planning on multiple organizational levels, for instance by separating or filtering budgets per business unit or on a more detailed level per profit center. Since Startup X's targeted client companies are all larger companies and in many instances market leading with a legion of internal organizational units, for instance in terms of operational or geographical units, a complex organizational structure must be managed in many cases. Therefore, *Planning Levels* enables larger and complex organizations to consolidate separate budgets within the organizations, since many organizational units and employees are conducting budgeting work simultaneously. This reasoning is further supported by the fact that coordination is one of the main purposes of budgeting (Drury, 2013; Ax et al., 2009) and allowing for planning on multiple organizational levels, and thus per organizational unit, intends to steer the planning in all parts of an organization towards the same organizational goal; planning becomes transparent and a mutual understanding can be reached.

Moreover, the expected large size as well as complexity, both in terms of organizational structure and types of business, in each of the targeted client companies is alluding to the fact that the businesses are expected to need extensive support from IT solutions. Accordingly, the majority of the clients can be expected to have an existing IT-architecture that is built from numerous of different solutions, for instance ERP-systems, CRM-systems and finance systems. The offering's *API* acts as a value creator since it allows the offering to be better fitted in existing system environments by enabling and easing integration with the rest of the solutions. Furthermore, the offering's *Calculation Engine* is a value creator in the sense that it supports the complex calculations required by advanced business logics, in line with the types of businesses that many of the targeted client companies are expected to have. In addition, budgeting processes may differ from company to company (Ax et al, 2009). The offering provides *Unique Dimensions* as a value creator which is intended to enable flexibility and an ability to adapt every solution implementation and setup to the needs of a specific client, for instance in terms of business logics and budgeting process.

Multiple value creators can also be defined from a user's perspective on budgeting and planning solutions. First and foremost, with individuals being more and more used to adapting technology and IT in general from a consumer standpoint, where user friendliness is essential, the same degree of adaptability to reach improved job outcomes may be desired as well and is demonstrated in shadow systems (Behrens & Sedera, 2004). User friendliness can be associated with the concept of perceived ease of use in accordance with TAM (Davis, 1986) which is essential to induce the willingness to actually use technology such as budgeting and planning solutions. The value creators *App Concept*, *Excel Input Interface* and *Cloud Service* intend to address this. The first value creator, *App Concept*, enables a design of the functionality in the offering to support the budgeting process according to the concept of apps that employees are familiar with and understand. The second value creator, *Excel Input Interface,* enables an interface that is similar to Excel which most employees recognize and understand. The third value creator, *Cloud Service*, allows for easy deployment at client organizations and also offers clients the ability to store the sensitive data on secure servers provided by Startup X over the cloud. In addition, the value creator enables users to have the convenience of accessing the offering from any computer through the web browser. Therefore, the *App Concept*, *Excel Input Interface* and *Cloud Service* intend to create a willingness to use the solution by reducing the effort needed to actually use it, which is relevant since one of the main purposes of budgeting is to motivate managers to enhance performance and fulfill objectives (Drury, 2013; Ax et al., 2009). This result of a reduced effort to use the solution can also be regarded as creating value by reducing the sacrifices needed to use the system, which therefore increases the customer

value aligned with the benefits/costs ratio models of perceived customer value (Salem Khalifa, 2004)

In addition to perceived ease of use, TAM also promotes the perceived usefulness as important to induce a willingness to use a technology (Davis, 1986); by promoting, or increasing, perceived usefulness and thus increasing the benefits of a technology, the customer value is increased according to the benefits/costs ratio models of perceived customer value (Salem Khalifa, 2004). The value creators *Input Restriction*, *Chat* and *Comments* may be attributed to benefit perceived usefulness. The first value creator, *Input Restriction*, allows the setup of restricted input ranges which reduces the risk for faulty data inputs and is thus a measure to quality proof the budgeting input work. The second and third value creator, *Chat* and *Comments*, provide increased means of communication, both between users on the same workflow level as well as between users on different workflow levels; this is motivated since communication and enabling organizational involvement can be expected to enhance job fulfillment and communication is also regarded as one of the main purposes of budgeting (Drury, 2013; Ax et al., 2009).

The offering also intends to increase both perceived ease of use and usefulness from an administrator's perspective to increase the willingness to use the technology in accordance with the TAM (Davis, 1986). The value creator *Administration Interface* is a specifically designed interface for administrators that is focused on ease of use, similar to how the value creators *App Concept* and *Excel Input Interface* increase ease of use for users, and thus reduces the efforts needed by administrators to conduct their work. Furthermore, the value creator *Role Simulation* enable administrators to act as other system users which, for instance, is valuable in supporting the system users and helps both administrators and system users to conduct and fulfill their jobs. Thus, both *Administration Interface* and *Role Simulation* enhances the willingness to use the offering as a technology. Lastly, in regards to solution support in general, the value creator *Small & Flexible Vendor* refers to the small size of Startup X which allows the vendor to provide quick and customized support through close client-vendor relationships, in combination with its relationship with Firm Y to assist with implementation and competence in general.

6.2 Map Gains & Pains

The second step of the process proposed in the theoretical framework is to map gains and pains, which corresponds to what Osterwalder et al. (2014) refer to as the Customer Profile in the VPC. Mapping gains and pains, which are presented in Table 10 to 13, aims to determine how budget solutions are perceived to add value by clients on the market and thereby answer RQ2. Gains represent benefits customers want or desire in their job, which in this case is related to the budgeting process. Pains, on the other hand, refers to aspects that customers perceive as annoying in their current way of performing a job. In terms of B2B, besides identifying gains and pains, it is also necessary to consider multiple roles affecting the buying decision within the client firm. As Webster & Wind (1972) outline, two of these roles can be labeled as user and decider. In this research, deciders' perception of the budgeting process and solutions applied will be identified and categorized as strategic gains or pains, while users' point of view will be presented in terms of operational gains or pains. Extracting data regarding both the strategic and operational perspective has been feasible due to interviews with client representatives possessing the role of both user and decider, which is in line with the reasoning by Webster & Wind (1972) regarding that one employee can hold several roles.

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6.2.1 Strategic Gains & Pains

It is motivated to consider the decider perspective when mapping gains and pains, since he or she makes the actual purchase decision (Keillor, 2007). In addition, deciders often have a direct influence in the buying process by acting as product champions (Bonoma, 2006). Thus, understanding the strategic perspective from a decider's point of view is seen as a necessity to answer how the market perceives value in solutions supporting the budgeting process. Gains and pains identified from a strategic perspective, which constitutes the first part of the answer to RQ2, are presented in Table 10 and Table 11 respectively.

Table 10 Map of Strategic Gains

Strategic Gain	Description
System Integration	Smooth integration with other systems in the IT environment.
Smooth Implementation	A smooth and quick implementation is desired.
Approving Budgets	Ability to approve budgets on various levels in the organization and manage the approval flow.
Process Visualization	Ability to visualize processes in order to manage workflows.
Aggregation of Data	Support for aggregating data of multiple users automatically.
Configurable	Ability to configure the tool in line with complex organizational needs, like Excel.
Comprehensive Solution	Ability to keep a major part of the business planning in one place, including budgeting.
Data Safety	Ensure safe data handling and protection since it concerns sensitive data.
Simple to Administrate	Facilitate daily administration by the organization itself, without involving IT department or consultants.
Close Vendor Relationship	Close relationship with vendor for continuous improvements and quick support.
Vendor Support	Vendor is accessible and is able to deliver continuous support.
Small Vendors	Small vendors imply quick support.
Vendor Competence	Vendor has the ability to provide technical support and improvements.
Vendor Reputation	Previous reputation is valued, for instance through reference cases.
Cost Structure	A cost structure where it is easy to predict future costs.
Rolling Forecasts	Support for rolling forecasts.
Report Creation	Ability to create suitable reports for decision making.
Distribution of Guidelines	Support for distributing guidelines, regarding the budgeting process, from management throughout the organization.

The list of perceived strategic gains in supporting the budgeting process is more extensive than the list of perceived pains. This could perhaps be related to the fact that plenty of existing solutions already exist on the market, in comparison to a market with few solutions where customer needs have not been explored to the same extent. However, an aspect that most of the clients is satisfied with, but still want and perceive as a gain, is *System Integration*. Data has exclusively been collected from companies which individually, or as a part of a larger corporate group, have more than 1B SEK in revenues. This size logically implies an extensive IT

architecture involving a plentitude of IT solutions, which explains an emphasis on integration abilities. Considering this, *Smooth Implementation* becomes a natural gain as well, which is enhanced by considering users (Forman et al., 2007).

Several of the clients expressed that approvals of numbers on various levels are made during discussions in physical meetings, which is perceived as desirable since these discussions often facilitate a mutual understanding of the numbers; a mutual understanding in turn enhance coordination which is one of the main purposes with budgeting (Drury, 2013; Ax et al., 2009). Yet, *Approve Budgets* is a strategic gain since approving budgets on each organizational level in order to enhance the management of the approval flow is desired within the budget solution; this will ensure increased control in the process. By once again proceeding from the fact that coordinating operations is one of the purposes in the budgeting process (Drury, 2013; Ax et al., 2009), *Process Visualization* is perceived as a gain to make workflows manageable.

During discussions regarding solutions applied in the budgeting process, Excel is often mentioned. Clients using other solutions than just pure Excel solutions in their budgeting process emphasize the benefit of aggregating data from various users automatically. This reasoning makes sense since the budgeting process involves many people from more or less all departments in an organization (Ax et al., 2009). Thus, *Aggregating Data* from multiple users is perceived as a gain. In terms of Excel as a solution, it is perceived as configurable and a requirement for most clients concerns a solution which can be configured in line with complex organizational needs. Thus, *Configurable* is regarded as a gain and is aligned with the fact that a solution must be adaptable to the unique and continuously changing needs and requirements of organizations (Truex et al., 1999). However, an aspect that often challenges configurability is comprehensiveness, since larger solutions often become static. Yet, a *Comprehensive Solution* is to multiple clients perceived as a gain; keeping the budget solution well coupled with other functions of business planning and accounting is perceived as valuable, since budgeting is related to the overall planning process in organizations (Drury, 2013) and a subpart of the accounting system (Bangs, 2001).

From a strategic perspective, a gain in terms of *Data Safety* is required since data handled in the budgeting process, for instance financial data, is often of sensitive character. To manage data, *Simple to Administrate* is regarded as a gain for controllers since managing daily administration, for instance handling accesses, is desired in order to avoid involvement of the IT department or consultants. On the other hand, *Close Vendor Relationship* is a gain since a close relationship with a vendor as well as with consultants is perceived as beneficial and induces continuous improvements. Considering the importance of support, *Small Vendors* and *Vendor Competence* are both perceived as gains since small and competent vendors are often able to provide quick and technical support. Furthermore, while the reputation is not prioritized, *Vendor Reputation* is a gain in terms of having reference clients. Moreover, the aspect of costs is always perceived to be of importance in solution selection. Hence, in order to even be considered as a vendor, *Cost Structure* is a required gain since a clear payment structure is expected where it is easy to predict future costs.

One of the purposes of budgeting is to induce control since it allows the organization to compare outcomes with the initial plan (Drury, 2013; Ax et al., 2009). Using rolling forecasts would improve this type of control even more since comparison of budgeted data and actual outcomes will be conducted as the year proceeds, based upon results from the last twelve months. In line with this, support for *Rolling Forecasts* in a budgeting solution is something multiple clients see as a gain. To ensure that budgeted values are comparable in order to function as basis for

decision-making (Drury, 2013), a gain in terms of *Report Creation* is desirable and provides an ability to export understandable and concrete reports for management. Besides receiving information from the output of the budgeting, management also has the opportunity to provide input to the organization by communicating guidelines and objectives through the budgeting process. Thus, the gain *Distribution of Guidelines* is related to another purpose of the budgeting described as communication (Drury, 2013; Ax et al., 2009), and an opportunity for managers to distribute guidelines within a budgeting solution is valuable to clients.

Table 11 Map of Strategic Pains

Strategic Pain	Description
Lacking Visualization of Assumptions	Results of assumptions are not visualized.
Consolidation of Excel Sheets	Consolidating Excel sheets must be conducted manually.
Detailed Budgeting	Having a detailed budgeting implies a time-consuming budgeting process.
Individual Dependency	Configuration and maintenance of tool is dependent on a few individuals.
Lacking Approval Flow Management	Unable to manage approval flows within the tool.
Lacking Process Overview	Difficult to see entire process overview.
Large Vendors	Large suppliers are difficult to talk to and doesn't provide new functionality quickly.

All planning is built on numerous assumptions (Lalli, 2011). The inability to present such assumptions in the budgeting process is thus constraining, which is the reasoning behind *Lacking Visualizations of Assumptions* as a strategic pain. Another strategic pain, *Consolidation of Excel Sheets*, is hindering in the budgeting process since manually managing consolidation of sheets is time consuming and thus expands on the budget process as an already time consuming process (Hope & Fraser, 2003). Multiple clients are of the opinion that involving a larger part of the organization in the budgeting process and thus conduct a *Detailed Budgeting* is a pain due to the time and effort it requires. Furthermore, *Individual Dependency* is a pain since the use of Excel sheets also tend to make the budgeting process dependent on a few individuals, often creators of the Excel sheets, which is perceived as a risk in a long-term perspective; this is one of the main reasons as to why clients try to minimize the use of Excel.

Several of the strategic pains corresponds to previously presented gains. In terms of the budget functioning as a coordination mechanism (Drury, 2013; Ax et al., 2009), *Lacking Approval Flow Management* and *Lacking Process Overview* within the solution are considered to be strategic pains since it affects coordination negatively. Furthermore, similar to how small vendors are seen as beneficial due to their ability to provide quick support, *Large Vendors* is seen as a pain due clients' perception of them being difficult to talk to and that they lack ability to provide most recent functionality.

6.2.2 Operational Gains & Pains

Besides considering the strategic perspective, the use of solutions in the budgeting process also needs to be assessed from a user's perspective on an operational level. Users are often involved when product requirements are compiled (Kotler, 2013; Havaldar, 2005), which is one of the main reasons as to why it is a necessity to understand users' needs. Another important and interesting aspect regards that today's B2B deals relies on cooperation and recurring transactions rather than on one time transactions (Forman et al., 2007). Thus, it is of even greater

importance to make users satisfied to maintain a good relation. Gains and pains identified from an operational perspective, which constitutes the second part of the answer to RQ2, are presented in Table 12 and Table 13 respectively.

Table 12 Map of Operational Gains

Operational Gain	Description
User Friendly Interface	A user-friendly interface so people in all types of positions can work with the tool.
Support Multiple Users	Ability to handle multiple users inserting data at the same time, without affecting user experience.
Customized Templates	Templates should be customized in line with the work process in each unit, to facilitate ease of use and ease of understanding by users.
Visualization of Next Actions	Process should be clear for users to understand next actions.
Present Reference Data	Ability to present reference data as support in the budgeting process.
Visualization of Data	Data should be visualized in a way which enhance understanding of the numbers.
Track Numbers	Ability to provide a high detail level in order to track numbers.
Support for Scenario Analysis	Support for scenario analysis to see how your changes, as a user, affect the outcome.
Comment Functionality	Communication in terms of comments within the templates.

To facilitate understanding of the users' point of view, the TAM proposed by Davis (1986) is a suitable tool to apply. The model states that a person's willingness to use a system depends on his or hers attitude toward the system, which in turn relies two factors; the system's perceived ease of use and the system's perceived usefulness. Perceived ease of use concerns to which extent using a system is free of physical and mental effort, which could be related to four identified gains: *User Friendly Interface*, *Support Multiple Users*, *Customized Templates* and *Visualization of Next Actions*. Perceived usefulness on the other hand refers to the degree a system could enhance an employee's job performance, which could be related to the other five identified gains: *Present Reference Data*, *Visualization of Data*, *Track Numbers*, *Support for Scenario Analysis* and *Comment Functionality*.

User Friendly Interface is requested by clients in order for employees in all parts of the organization to be able to work with the solution; role or financial background should not restrict which people ends up using the tool. This is heavily emphasized by clients since employees in all type of positions, from sales personnel to financial managers are involved in the budgeting process, which is also in line with literature (Ax et al, 2009). The gain *Support Multiple Users* is also related to the fact that many employees are involved in the budgeting process. First of all, clients request that this function is in place. Second of all, having multiple users in the system should not affect the performance and, for instance, cause delay in user actions, which would affect the perceived ease of use negatively. *Customized Templates* refers to clients valuing an input interface which reflects each user's working process in order to make it easy to understand and thus make the use of the system in the daily work as effortless as possible. The last identified gain related to a system's ease of use concerns *Visualization of*

Next Action. It does not mean a visualization of the whole budgeting process per se, but rather to visualize for each user how his or her work process looks like in order to enhance understanding of next actions. Worth mentioning is that these four gains related to perceived ease of use of course, indirectly, affects the system's perceived usefulness as well (Davis, 1986).

The ability to present reference data is requested by clients in order to display reference data in a convenient way next to input fields. As clients pointed out, there is no better guideline in your budget work than previous year's budget and outcome. Hence, *Present Reference Data* enhances user's job performance in terms of them being able to conduct a more reliable budget without manually gathering reference data from Excel sheets or the finance solution. Furthermore, clients value the possibility to budget on a detailed level and thus being able to dig into the numbers and see the underlying activities, which is referring to the gain *Track Numbers*. It is also a difference between seeing data and understanding data, which is why clients request *Visualization of Data* that facilitates an understanding by users. Thereby, the gain also enhances the solution's usefulness, since users are able to determine if data is realistic or not by themselves. Considering the part of understanding data, *Support for Scenario Analysis* is another gain requested which ensures understanding of data and facilitates the process of determining if data is realistic and feasible. Lastly, *Comment Functionality* within the template is perceived as a gain since it is much easier for a receiver to understand a message when it is presented near its context, rather than receiving a message in an e-mail without opportunity to immediately see related numbers.

Table 13 Map of Operational Pains

Operational Pain	*Description*
Lacking Intuitiveness	System lacks intuitiveness and restricts which people than can work in the tool.
Managing Excel Sheets	Managing Excel sheets is time consuming and handling multiple versions is perceived as risky.
Lacking Excel Import Functionality	Excel import is not working smoothly.
Lack of Control	Formulas can easily be manipulated by mistake in Excel without further control.
Lacking User Communication	Can't communicate with other people in the budgeting process using the tool.
Inability to Support Detailed Forecasting	Lack the ability to forecast on a desirable level of detail.

Similar to operational gains, operational pains can be divided into either be related to perceived ease of use or perceived usefulness according to TAM (Davis, 1986). Regarding perceived ease of use, multiple clients complain about the pain point *Lacking Intuitiveness* which restricts the types of employees that are able to participate in the budgeting process based on competence and experience. Clients who are primarily using Excel in their budgeting also emphasize that handling Excel sheets is time consuming and the process requires a significant amount of effort; hence, *Managing Excel Sheets* is a pain for the users involved. Another pain that is related to the use of Excel is *Lacking Excel Import Functionality* as clients have to manually copy and paste numbers between Excel sheets and the budgeting solution. It is logical that this is perceived as being of annoyance in general since more or less everyone in finance-related roles works with Excel sheets to some extent. In regards to perceived usefulness and pains related to enhancement of the job performance, Excel is once again mentioned. The usage of Excel is

perceived as a risk by clients since formulas can easily be manipulated by mistake and results in the implied *Lack of Control* as a pain. *Lacking User Communication* is corresponding to a previously identified operational gain, *Comment Functionality,* and the inability to communicate with other people in the budgeting process using the solution is perceived as affecting the job performance negatively. The last identified pain point that affects job performance and thus perceived usefulness negatively is regarding *Inability to Support Detailed Forecasting*. This pain infers that output is not as precise as required and decisions made upon this output will in accordance suffer.

6.3 Match Value Creators with Gains & Pains

The third and last step is to match the mapped value creators of the offering with the mapped gains and pains of the market that have previously been identified. The step corresponds to the VPC's feature of Fit (Osterwalder et al., 2014) and is aligned with the theoretical framework. The aim is to provide a qualitative analysis of how well the existing offering meets the perceived value of the client on the market and thus provides an answer to the RQ3 by determining Problem Solution Fit. The most essential aspect of Value Proposition Design is to achieve and sustain fit between a value proposition and the customers (Osterwalder et al., 2014) and Problem Solution Fit intends to emphasize that a value proposition should be intentionally designed to primarily address the most important gains and pains that clients perceive, since that creates the most customer value (Osterwalder et al., 2014).

6.3.1 Linking Gains & Pains with Evaluation Criteria

It is difficult for the clients and companies in general to assess and understand their own organizational needs in regards to IT solutions (Nickson, 2008). Thus, it is suggested that it is difficult for organizations to articulate the relative importance of needs, which extends to the challenge for clients to rank gains and pains in order to determine the most important ones. The research addresses this challenge by linking each mapped gain and pain with specific evaluation criterion, which clients in turn have had an opportunity to rank in a client survey. The evaluation criteria chosen for the research are the nine attributes provided by Wei et al. (2005). Table 14 to 17 present the one-to-one linkages of each gain and pain with a specific evaluation criterion.

Table 14 Link Between Strategic Gains and Evaluation Criteria

Strategic Gain	Evaluation Criteria
System Integration	Flexibility
Approving Budgets	Functionality
Process Visualization	User Friendliness
Aggregation of Data	Functionality
Configurable	Flexibility
Comprehensive Solution	Functionality
Simple to Administrate	User Friendliness
Distribution of Guidelines	Functionality
Rolling Forecasts	Functionality
Vendor Support	Service
Cost Structure	Total Costs
Data Safety	Reliability
Smooth Implementation	Implementation Time
Report Creation	Functionality
Vendor Competence	Technical Capability
Close Vendor Relationship	Service

50

Vendor Reputation	Reputation
Small Vendors	Reputation

A third of the strategic gains identified are linked to the criterion *Functionality* and its underlying items module completion, function fitness and security (Wei et al., 2005). These gains, which are *Approving Budgets*, *Aggregation of Data*, *Comprehensive Solution*, *Distribution of Guidelines*, *Rolling Forecasts* and *Report Creation*, are all contributing to the overall module completion. In addition, *Rolling Forecasts* is related to function fitness since the forecast function has to fit in terms of supporting rolling values, not solely supporting forecasts in general. *Report Creation* regards function fitness as well due to the fact that report creation does not imply support for creating reports in general, reports created has to be suitable as basis for decision making.

Regarding the criterion *Flexibility* and its underlying evaluation items upgradeability, ease of integration and ease of in-house development (Wei et al., 2005), *System Integration* and *Configurable* are gains linked to this criterion. This is relatively self-explanatory since these gains are related to the evaluation item ease of integration. Strategic gains linked to the criterion *User Friendliness* and its underlying evaluation items ease of operation and ease of learning (Wei et al., 2005) are *Simple to Administrate* that relates to ease of operation and ease of learning for administrators, as well as *Process Visualization* to enhance management of workflows and thus eases operations for managers.

The criteria *Reliability*, *Implementation Time* and *Total Cost* are solely linked to one strategic gain each. *Reliability* refers to evaluation items such as system stability and data recovery (Wei et al., 2005), which is why the gain *Data Safety* is linked to this criterion. *Implementation Time* is rather self-explanatory and an ability to provide a *Smooth Implementation* is of course, among other things, related to the *Implementation Time*. *Total Cost* includes numerous aspects such as price, maintenance cost and consultant expenses, and the identified gain, in terms of having an easy and predictable *Cost Structure*, affect all of these aspects to some extent.

Moreover, multiple gains are linked to vendor-specific criteria. *Vendor Support* and *Close Vendor Relationship,* both to enhance continuous improvements, are related to level of service and service speed and the gains are thus related to the criterion *Service* (Wei et al., 2005). Taking another perspective, an ability to provide technical support is desired and refers to the gain *Vendor Competence*. This gain is related to the criterion *Technical Capability* since an underlying evaluation item is technical support capability. Lastly, the value of references clients, which the gain *Vendor Reputation* imply, as well as the quick support, which the gain *Small Vendors* imply, are linked to the criterion *Reputation* and its underlying item scale of vendor (Wei et al., 2005).

Table 15 Link Between Strategic Pains and Evaluation Criteria

Strategic Pain	*Evaluation Criteria*
Consolidation of Excel Sheets	Functionality
Individual Dependency	Reliability
Detailed Budgeting	Functionality
Lacking Approval Flow Management	Functionality
Lacking Process Overview	User Friendliness
Lacking Visualization of Assumptions	User Friendliness
Large Vendors	Reputation

Switching focus to strategic pains, annoyance has been expressed related *Consolidation of Excel Sheets* with regards to how time-consuming it is to do manually, and this pain is related to the criterion *Functionality* and the lack of module completion (Wei et al., 2005). The pain *Lacking Approval Flow Management* is also related to *Functionality*, since it concerns a function that certain clients miss in their current solutions. A third pain linked to *Functionality* is *Detailed Budgeting,* which refers to the time-consuming process of involving many employees in the budgeting process and thus conduct a detailed budgeting. This pain is related to the underlying item function fitness (Wei et al., 2005), since functions better suited for the organizational needs would reduce the time consumed in the budgeting process.

The criterion *User Friendliness,* and its underlying item ease of operation, is linked to two strategic pains, *Lacking Process Overview* and *Lacking Visualization of Assumptions*; both imply a reduced ease of use. Furthermore, the pain *Individual Dependency* affects the stability of the process and thus the criterion *Reliability* (Wei et al., 2005), since absence of certain individuals would hurt the budgeting process. Lastly, the pain *Large Vendors,* which refers to that large vendors could be difficult to talk to, is linked to the criterion *Reputation* and correlates with the underlying item scale of vendor (Wei et al., 2005).

Table 16 Link Between Operational Gains and Evaluation Criteria

Operational Gain	*Evaluation Criteria*
User Friendly Interface	User Friendliness
Customized Templates	Flexibility
Present Reference Data	Functionality
Visualization of Data	User Friendliness
Visualization of Next Actions	User Friendliness
Track Numbers	Functionality
Support for Scenario Analysis	Functionality
Support Multiple Users	Reliability
Comment Functionality	Functionality

In terms of operational gains, a majority are linked to the criterion *Functionality* or *User Friendliness*. Gains such as *Present Reference Data*, *Support Scenario Analysis*, *Track Numbers* and *Comment Functionality* are linked to the criterion *Functionality* since they relate to module completeness (Wei et al., 2005). Meanwhile, the gains *Visualization of Data*, *Visualization of Next Actions* and *User Friendly Interface* are related to the underlying evaluation items ease of operation and ease of learning, and are thus linked to the evaluation criterion *User Friendliness*. Besides *Functionality* and *User Friendliness*, operational gains are also linked to the criteria *Flexibility* and *Reliability*. The gain *Customized Templates* regards the ability to create customized templates in order to fit the working process, which therefore implies an emphasis on ease of in-house development and a link to the criterion *Flexibility* (Wei et al., 2005). In addition, the gain *Support Multiple Users* refers to the ability of having multiple users in the system at the same time without affecting the system performance, which is closely connected to the evaluation item stability. Therefore, the gain *Support Multiple Users* is linked to the criterion *Reliability*.

Table 17 Link Between Operational Pains and Evaluation Criteria

Operational Pain	Evaluation Criteria
Lacking Intuitiveness	User Friendliness
Lack of Control	Reliability
Managing Excel Sheets	Reliability
Lacking Excel Import Functionality	Flexibility
Lacking User Communication	Functionality
Inability to Support Detailed Forecasting	Functionality

None of the operational pains are linked with vendor-specific criteria. The pain *Lacking Intuitiveness* that clients voice concerns over affects both ease of operation and ease of learning of a solution in a negative manner, which implies a link to *User Friendliness* (Wei et al., 2005). Two other pains, *Lack of Control* and *Managing Excel Sheets* are tightly coupled with the use of Excel and reduce the stability of the solution; thus, the two pains are linked with the criterion *Reliability*. In addition, *Lacking Excel Import Functionality* concerns reduce ease of integration and thus the criterion *Flexibility* of the solution (Wei et al., 2005). Lastly, *Functionality* and its underlying item module completion is linked to *Lacking User Communication,* referring to the lack of communication functionalities, and *Inability to Support Detailed Forecasting*.

6.3.2 Prioritization of Gains & Pains using Evaluation Criteria

Before conducting the Problem Solution Fit assessment, and thus answer RQ3, the mapped gains and pains of the clients need to be prioritized according to their relative degree of importance. In order to do this, the research makes use of the collected survey data on how clients rank the importance of the different evaluation criteria. Details about the client survey results can be found in Appendix C.

Evaluation Criteria Ranking

Since the mapped pains and gains are all linked with a specific evaluation criterion, the prioritizations of the pains and gains are determined by the relative degree of importance of the evaluation criterion respective gain or pain is associated with; in other words, gains and pains associated with the most important evaluation criterion are considered to be the highest prioritized by clients to address while the gains and pains that are associated with the least important evaluation criterion are considered the least prioritized. In Table 18, the nine evaluation criteria by Wei et al. (2005) are ranked by importance from the most important evaluation criterion to the least important based on the "Average Importance Score" that respective criterion received in the client survey.

Table 18 Evaluation Criteria sorted according to their degree of importance.

Importance Ranking	Evaluation Criteria	Average Importance Score
1	User Friendliness	2,14
2	Functionality	2,50
3	Reliability	3,82
4	Flexibility	3,91
5	Total Costs	4,50
6	Service	6,45
7	Implementation Time	7,09
8	Technical Capability	7,09
9	Reputation	7,50

User Friendliness, *Functionality* and *Reliability* were the three evaluation criteria that received the best scores on average, while *Implementation Time*, *Technical Capability* and *Vendor Reputation* received the worst scores. When making the distinction between solution-specific criteria and vendor-specific criteria, which Wei et al. (2005) refer to as system and vendor factors respectively, it is clear that most of the solution-specific criteria are considered more important than the vendor-specific criteria; when *Implementation Time* is disregarded, the solution-specific criteria *User Friendliness*, *Functionality*, *Reliability*, *Flexibility* and *Total Costs* all have a better average score than the vendor-specific criteria *Service*, *Technical Capability* and *Vendor Reputation*.

The survey results are in line with the insights from interviews where clients emphasized points related to *User Friendliness* and *Functionality*, which has resulted in that a majority of the mapped pains and gains are linked with these two evaluation criteria. All 22 survey respondents chose solution-specific criteria as the most important criterion overall to consider in an evaluation process. Moreover, only three out of the nine different evaluation criteria were chosen as the most important by one or more client: *Functionality*, *User Friendliness* and *Flexibility*. *Functionality* was the most frequent top choice and was chosen as the most important criterion by 50% of the respondents, while *User Friendliness* and *Flexibility* were considered the most important by 36% and 14% respectively. The importance of both *User Friendliness* and *Functionality* is further supported by the fact that none of the respondents chose either evaluation criterion as part of their three least important criteria overall.

Moreover, the survey results further support that vendor-specific criteria are less important to consider in a system evaluation which was mentioned in the interviews with the clients. All respondents chose either a vendor-specific criterion or *Implementation Time* as the least important criteria; over 68% of all respondents regard a vendor-specific criterion as least important and 50% point to *Vendor Reputation* as the least important. *Vendor Reputation's* lack of importance in an evaluation is further emphasized by the fact that over 72% of all respondents regarded the criterion as one of their three least important criteria. It should be noted that *Implementation Time* and *Technical Capability* are as important in terms of average importance score, but *Technical Capability* is considered to be less important since the criterion is chosen by more respondents as part of the four least important criteria to consider in an evaluation process.

Prioritization of Pains & Gains
With an outlined ranking of the evaluation criteria by Wei et al. (2005) based on importance, the research is able to prioritize the mapped pains and gains that are linked to the ranked evaluation criteria. This prioritization is visualized in Appendix D and all tables in the appendix are sorted from the most prioritized pain or gain to the least prioritized. Furthermore, in order to improve the structure and ease the Problem Solution Fit assessment, the prioritization is split into three segments: (1) High Priority (HP), (2) Medium Priority (MP) and (3) Low Priority (LP).

The HP-segment holds all mapped gains and pains that are linked to evaluation criteria with importance ranking 1-2: *User Friendliness* and *Functionality*. These two evaluation criteria received significantly better scores than the rest in terms of Average Importance Score and *Functionality* is followed by *User Friendliness* as the most frequently chosen most important criterion by survey respondents. Meanwhile, the LP-segment comprises all mapped gains and pains that are linked to evaluation criteria with importance ranking 6-9: *Service, Implementation Time, Technical Capability* and *Vendor Reputation*. These four evaluation criteria received

significantly worse scores than the rest in terms of average importance score and they were also the only criteria that survey respondents chose as the least important criteria in an evaluation process. The rest of the mapped pains and gains are hold in the MP-segment as they are linked to evaluation criteria with importance ranking 3-5: *Reliability*, *Flexibility* and *Total Costs*.

6.3.3 Problem Solution Fit

To qualitatively assess how well Startup X's existing offering meets the market's perception of value, the research first matches the different gains and pains which clients currently stress with the highlighted value creators of the offering. The emphasis is on determining if the most important gains and pains are addressed by Startup X's existing offering, since that creates the most customer value (Osterwalder et al., 2014). Therefore, the matching of gains and pains with value creators is followed by an overall assessment of the Problem Solution Fit to answer RQ3. The matching of gains and pains with value creators is concluded in Figure 9 and 10 by visualizing whether the offering's value creators address the strategic and operational gains/pains respectively. A specific value creator is connected to a gain or a pain if the value creator is deemed to address any gain or pain, and a value creator may address multiple gains or pains, and each gain/pain may be addressed by multiple value creators. If a value creator addresses one or more gain/pain, the value creator is marked with the color grey. The clients' gains and pains are each deemed to be addressed on one of the following three levels: (1) insufficiently, which is visualized with the color white; (2) partially, which is visualized with the color grey in combination with dotted-borders; and (3) completely, which is visualized with the color grey in combination with solid borders.

Match Value Creators with Strategic Gains & Pains
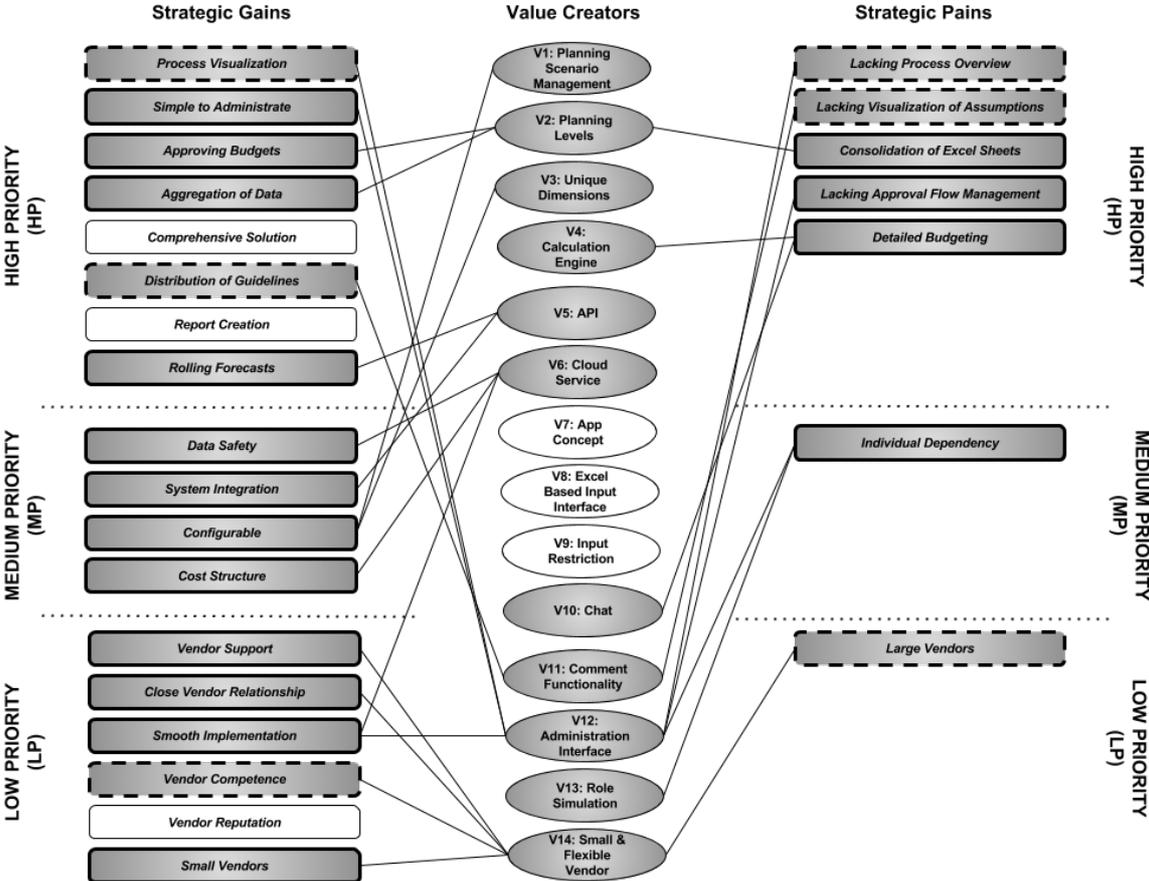
Figure 9 Matching Value Creators with Strategic Gains & Pains

55

In regards to the most prioritized strategic gains, i.e. strategic gains in the HP-segment, two of the eight gains mapped are considered insufficiently addressed by the offering and its mapped value creators: *Comprehensive Solution* and *Report Creation*. However, the rest of the gains are deemed to be at least partially addressed and four are these are completely addressed: *Simple to Administrate*, *Approving Budgets*, *Aggregation of Data* and *Rolling Forecasts*. The gain *Simple to Administrate* is addressed and provided by the *Administration Interface* since the emphasis of the value creator is to enable a smoother user experience for administrators; essentially, the *Administration Interface* allows for simplicity and increased ease of use that reduces the need for involving IT and consultants in daily administration work. In regards to the gains of *Approving Budgets* and *Aggregation of Data*, they are created by the value creator *Planning Levels*; it enables an increased control through enhancing the management of approval workflow as well as allowing for data aggregation which is precedent data consolidation entered by numerous controllers and departments. The gain *Rolling Forecasts* is provided by the value creator *API* since the improved business control that rolling forecasts would provide is reliant on a continuous input of data, and the *API* enables this through a smooth integration with other IT solutions that provides the data required. Two of the strategic gains in the HP-segment are only considered to be partially created: *Process Visualization* and *Distribution of Guidelines*. Since the emphasis in *Process Visualization* is to enable coordination through increased manageability of workflows, the offering's *Administration Interface* addresses this gain as it provides the ability to manage the workflows and thus increase the control of operations; however, since it does not visualize the progress of the process, the value creator is only addressing the gain partially. The gain *Distribution of Guidelines* is also partially created since there are means to communicate guidelines throughout the organization using *Comment Functionality*, but there is no explicit functionality within the offering that addresses communication of guidelines specifically.

Moreover, in regards to the strategic pains in the HP-segment, all five pains are deemed to be at least partially addressed by the offering's value creators and the following pains are completely relieved: *Consolidation of Excel Sheets*, *Lacking Approval Flow Management* and *Detailed Budgeting*. Since the budgeting work and consolidation of budgets is done entirely in the offering through *Planning Levels*, there is no need to involve Excel or to consolidate different Excel sheets. The pain of *Lacking Approval Flow Management* may be seen along the same lines as the gain of *Approving Budgets* and is addressed by an increased control and manageability of workflows which the *Administration Interface* provides. Furthermore, *Detailed Budgeting* is a pain due to the time and effort that is required to involve the organization to conduct a more detailed budgeting. Thus, the pain is relieved by both the *Calculation Engine* and the *Chat*. The prior value creator enables quick and more standardized calculations, which enhances the efficiency of budgeting work, while the latter value creator allows for a smoother involvement of employees in the budgeting process, which enhances the effectiveness of the budgeting. Meanwhile, the following strategic pains in the HP-segment are only deemed to be partially relieved: *Lacking Process Overview* and *Lacking Visualization of Assumptions*. The pain of *Lacking Process Overview* can be seen in the same light as the strategic gain *Process Visualization*, where the value creator *Administration Interface* enables an increased ability to coordinate and manage workflows. However, while managing workflows is highlighted as part of the *Lacking Process Overview* pain, the *Administration Interface* does not provide an overview of the work progress. The pain of *Lacking Visualization of Assumptions* is only partially relieved by the *Comment Functionality* since it allows for the communication of assumptions that the pain is emphasizing. However, no explicit functionality to address visualization of assumptions is provided per se.

When focusing on the medium prioritized strategic gains and pains, i.e. strategic gains and pains in the MP-segment, all of them are considered to be completely addressed by the offering's value creators. The gains *Data Safety* and *Cost Structure* are provided by the offering's *Cloud Service*, where safety-oriented servers are provided by Startup X to clients over the cloud for storage of the sensitive data and the clients can also choose to store data on their own local servers. In addition, cloud-services enable clients to plan and predict their costs to use the solution in a more convenient manner (Armbrust et al., 2010). The gain *System Integration* is self-explanatorily created by the value creator *API* since it enables the offering to be integrated with other solutions in clients' IT-landscapes. The final strategic gain in the MP-segment, *Configurable*, is addressed by the value creators *Planning Scenario Management* and *Unique Dimensions*; the prior enables clients to choose the planning scenarios most suitable for their businesses and the latter further enhances the clients' ability to adapt the solution to fit business logics that may depending on the client. In terms of strategic pains in the MP-segment, the only pain is *Individual Dependency*. This pain is deemed to be completely relieved by the value creator *Administration Interface*, which through an increased ease of use enables more employees to be able to handle the solution and thus decrease a dependency on specific individuals, as well as by the value creator *Role Simulation*, which enables specific user profiles to be accessed through simulation and thus also reduces the dependency on specific users.

As for low prioritized strategic gains and pains, i.e. strategic gains and pains in the LP-segment, only one of the six gains is considered to be insufficiently created and that is the gain *Vendor Reputation*; Startup X is a startup and is thus less known on the market with limited number of reference cases. However, of the remaining five gains, four are deemed completely created: *Vendor Support*, *Close Vendor Relationship*, *Small Vendors* and *Smooth Implementation*. The first three of these gains emphasize vendor aspects in terms of being accessible for quick as well as continuous support and they are thus addressed by the value creator *Small & Flexible Vendor* since Startup X as a startup with limited numbers of clients as of currently is able to create close-knit relationships with clients to provide support as clients deem it necessary. The last gain that is fully created by the offering, *Smooth Implementation*, is created by the *Cloud Service* as well as by the *Administration Interface*; *Cloud Service* enables an eased deployment in the client organization while the ease of use of the *Administration Interface* allows for quick and efficient set-ups. The remaining low prioritized strategic gain, *Vendor Competence*, is deemed only be partially addressed by Startup X since it still is in a startup phase with limited experience; however, the *Small & Flexible Vendor* enables competence to be added by making use of the experience and knowledge that Firm Y possesses. Lastly, when regarding the low prioritized strategic pains, the only mapped pain is *Large Vendors*. Since *Large Vendors* is a vendor-related pain, it can be related to the same discussion as the vendor-related gains and the pain is addressed by the value creator *Small & Flexible Vendor*. However, the pain is only considered to be partially addressed by the value creator even though Startup X is smaller and agile in their approach, the startup does have limited resources which limits its ability to push out new functionality as frequently as clients may desire.

Matching Value Creators with Operational Gains & Pains
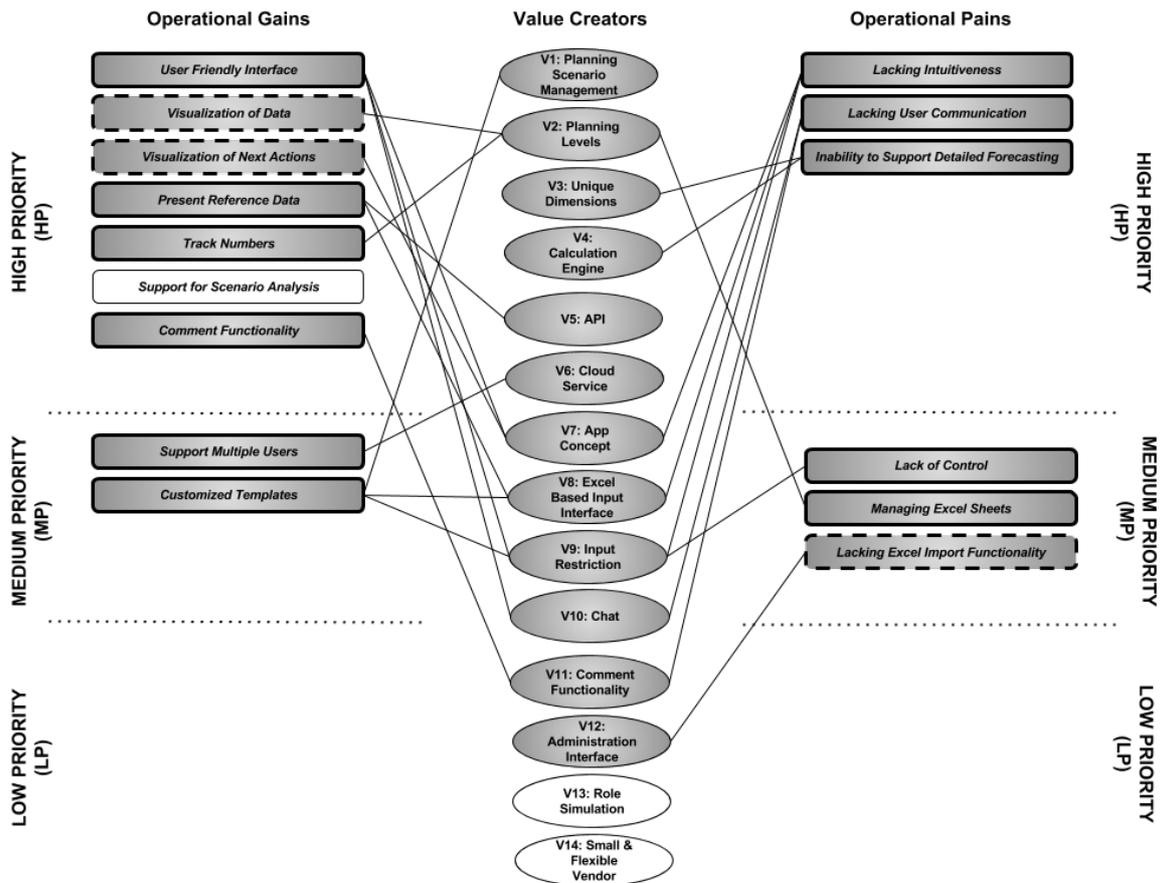
Figure 10 Matching Value Creators with Operational Gains & Pains

In regards to the most prioritized operational gains, i.e. operational gains in the HP-segment, six out of seven are addressed to some extent by the offering and its value creators. Considering the gain which is insufficiently addressed, *Support for Scenario Analysis,* clients request a function for conducting scenario analyses. Even if the calculation engine enables users to see how inserted numbers affect the outcome, the offering does not provide any explicit function for scenario analyses and to manage various scenarios. Turning to the gains in the HP-segment which are addressed by value creators, two of them are just partly addressed: *Visualization of Data* and *Visualization of Next Actions. Visualization of Data* is addressed by the value creator *Planning Levels* since it allows users to filter data and thus present data related to his or her specific work process; this function enhances the understanding of data. Yet, *Visualization of Data* is not fully addressed by the offering since visualization in terms of graphs, to further enhance the understanding of data among users, is desired as well. The other partly addressed gain in the HP segment, *Visualization of Next Actions,* refers to users' ability to see their individual process and thereby easily understand what their next expected action is. The offering's value creator *App Concept* allows users to understand what to do, but there is nothing that either visualize or determine the sequential order of actions, which is why this value creator only partly addresses the gain *Visualization of Next Actions.*

In the HP-segment among operational gains, there are four gains which are completely addressed by the offering: *User Friendly Interface, Present Reference Data, Track Numbers* and *Comment Functionality.* The gain *User Friendly Interface* is addressed by the offering through a combination of four value creators: *App Concept, Chat, Excel Based Input Interface* and *Input Restriction. App Concept* and *Chat* are familiar to most people since it is what they

all meet in their daily life using, for instance, their smartphone. The same line of reasoning is applied with *Excel Based Input Interface*, which is familiar to most professionals due to the wide-spread use of Excel in organizations. Furthermore, *Input Restriction* helps users to know what to insert and thus makes the solution more user friendly. *Present Reference Data* is the next gain that is fully addressed by the offering, and to be more precise by the value creators *API* and *Excel Based Input Interface*. *API* enables loading of updated reference data continuously from, for instance, finance systems, while *Excel Based Input Interface* allows presentation of the reference data next to the column for input. *Track Numbers* is another gain completely addressed by the offering and the value creator *Planning Levels*, since its filter function and transparent consolidation mechanism enables users to track numbers down to the first input. As a last operational gain in the HP-segment, *Comment Functionality* is logically addressed by the value creator *Comment Functionality*, which meets clients' desires of being able to communicate within templates using comments.

In regards to the medium prioritized operational gains, i.e. operational gains in the MP-segment, two out of two are completely addressed by the offering: *Support Multiple Users* and *Customized Templates*. *Support Multiple Users* were mentioned by clients in terms of that the number of users in the system at the same time should not affect the user experience and cause delays; this gain is addressed by the value creator *Cloud Service* since it allows each client to smoothly ramp up their computing resources in line with their needs (Armbrust et al., 2010). The other gain in the MP segment, *Customized Templates*, does not solely refer to that templates should be customized to the organization in general; it has to be customized to the working process in each unit since they could differ significantly within an organization. A combination of three value creators, *Planning Scenario Management*, *Excel Based Input Interface* and *Input Restriction*, fully address the gain *Customized Templates*. *Planning Scenario Management* enhance the adaptation to organizational needs due to the system's configurability. In addition, *Excel Based Input Interface* gives the ability to tweak and adapt the input grid precisely in line with each unit's requirements. Lastly, *Input Restriction* provides users with guidance regarding whether numbers are realistic or not depending on each unit's characteristics.

Moving on to the operational pains, all three in the HP-segment are completely addressed by the offering: *Lacking Intuitiveness, Lacking User Communication* and *Inability to Support Detailed Forecasting*. *Lacking Intuitiveness* is tightly related to user friendliness and is addressed by the value creators *App Concept, Excel Based Input Interface* and *Input Restriction*. As mentioned in earlier reasoning regarding *App Concept* and *Excel Based Input Interface*, they both contribute with being established concepts among a wide range of users and thus make the system more intuitive. In addition, *Input Restriction* informs the user of what is expected in terms of data input. The next pain in the HP segment, *Lacking Communication*, is addressed by the value creators *Chat* and *Comment Functionality*, which allows users to communicate with people before and after them in the process flow, as well as producing comments accessible to a certain number of users. *Inability to Support Detailed Forecasting* is the last operational pain in the HP-segment and is addressed by the value creators *Unique Dimensions* and *Calculation Engine*. *Unique Dimensions* enables slicing of data as detailed as desired while *Calculation Engine* facilitates the transformation of detailed data, for instance the monthly salary for a specific employee, into an outcome able to take action from, for instance an account balance for personnel costs.

In the MP segment of operational pains, two out of three pains are completely addressed by the offering: *Lack of Control* and *Managing Excel Sheets*. *Lack of Control* primarily refers to how easily formulas and numbers can be modified incorrectly in Excel, and is addressed by the value

creator *Input Restriction* which prevent such hazardous actions. The other fully addressed pain in the MP segment, *Managing Excel Sheets,* concerns the time-consuming and perhaps risky process of handling and consolidating multiple versions of Excel sheets; the value creator *Planning Levels* addresses this pain by providing an automatic consolidation mechanism. Besides these two fully addressed pains, there is another pain identified in MP segment: *Lacking Excel Import Functionality. Lacking Excel Import Functionality* is partly addressed by the value creator *Administration Interface* which gives administrators the opportunity to import Excel sheets in a convenient way. However, since regular users are not able to import Excel sheets by themselves, as they instead have to copy and paste data, the pain *Lacking Excel Import Functionality* is not completely addressed.

Assessment of Problem Solution Fit
Based on the fit between the strategic and operational gains and pains with the offering's value creators, as visually outlined in Figure 9 and 10 respectively, a qualitative assessment of the Problem Solution Fit in the case of Startup X can be conducted. To begin with, all mapped value creators address at least one gain or pain. Therefore, all value creators not only fit in according to the research's definition of a construct that intends to provide value to customers, but they would also be regarded as gain creators and/or pain relievers according to the terminology used by Osterwalder et al. (2014). However, while each value creator address at least one gain or pain, strategic gains and pains are addressed by all except for three value creators and operational gains and pains are addressed by all except for two value creators. The three value creators that do not address any strategic gains or pains, *App Concept*, *Excel Based Input Interface* and *Input Restriction*, may be seen as primarily being operational value creators since they emphasize user-related aspects such as ease of use in regards to, for instance, data input. With the same intuitive reasoning, the two value creators that do not address any operational gains or pains, *Role Simulation* and *Small & Flexible Vendor*, are regarded to be primarily strategic value creators since they target more managerial and executive-related aspects in regards to administration, management and vendor partnership.

Moreover, when switching focus from value creators to the gains and pains, it is evident that the mapped strategic gains and pains outnumber the mapped operational gains and pains. The precondition is that the strategic perspective is more relevant from a managerial and executive standpoint while the operational is more relevant from a user standpoint, as well as the presumption that all client representatives relate to or have insights into both perspectives. Thus, it is suggested that clients currently emphasize more managerial and executive needs in their business planning and budgeting, which is something Startup X should recognize. In addition, since the strategic gains and pains are more spread across the three priority segments while the operational ones are more aggregated towards the HP-segment, it may be argued that existing budgeting and planning solutions on the market have been able to address aspects related to the users' point of view; thus, the "remaining" highlighted gains and pains by clients from an operational standpoint are the ones which stand out and they are regarded as highly prioritized accordingly.

In an overview of how the value creators have addressed the gains and pains, the expectation prior to the research was that the offering would not be able to create all the gains and relieve all the pains outlined by the clients; this is unreasonable to ask for from a single value proposition (Osterwalder et al., 2014). This is confirmed by the research in the case of Startup X: four out of the 40 mapped gains and pains are considered to be insufficiently addressed and nine are deemed partly addressed by the value creators. However, while there are gains and pains which are insufficiently addressed by the offering, a large majority of the gains and pains

are addressed to some extent. In regards to the most prioritized gains and pains, which are the ones that should be emphasized in a Problem Solution Fit assessment (Osterwalder et al., 2014), three of the four insufficiently addressed gains and pains are in the HP-segment: *Comprehensive Solution*, *Report Creation* and *Support for Scenario Analysis*. *Comprehensive Solution* is not considered to be addressed by the offering since the solution concentrates on the budgeting aspect of business planning rather than business planning holistically. However, such a gain is to some extent intuitively contradicting a more agile and adaptable solution according to the needs of each client, since a larger solution is more implementation intensive and would take more effort to make required or desired adjustments to. Furthermore, the functionality that a more comprehensive solution would provide is currently added by other IT solutions. Thus, since the offering provides its *API* to smoothly integrate with other solutions in the IT environment, it is argued that *Comprehensive Solution* is not the most prioritized gain or pain to take action on. This line of reasoning is also why the gains of *Report Creation* and *Scenario Analysis* is not considered to be as relevant for Startup X to focus on; these gains are currently provided by specialized BI-solutions and as long as the offering's *API* enables the ability to integrate with such solutions, the gains will still be provided to customers. If anything, these pains are a testament of the fact that the *API* as a value creator should be emphasized and made clear by Startup X as being part of their value proposition.

Furthermore, the most important gains and pains which are deemed to only be addressed partly needs to be highlighted: *Process Visualization* and *Lacking Process Overview*. These are considered to not be fully addressed due to the fact that while Startup X offers the ability to manage workflows and thus the budget process, the solution is currently lacking the functionality to follow progress in a budget process in a visualized manner. In addition, the gain *Distribution of Guidelines* and pain *Lacking Visualization of Assumptions* regard aspects of communication. The assumptions which are applied in planning are a subset of the guidelines that management needs to distribute and there is currently no explicit functionality in terms of communication channel or graphical presentation space to do so. Thus, these are two gains and pains related to creating a common understanding to manage and conduct a correct budget, which therefore should be of interest for Startup X to look further into. Moreover, neither of the operational gains *Visualization of Next Actions* and *Visualizations of Data* are fully addressed by the offering. While the *App Concept* of the offering addresses *Visualizations of Next Actions* partly by applying a familiar concept to increase understanding and not requiring users to have financial backgrounds, no functionality supporting the user in determining the sequential order of tasks or apps to complete. This type of functionality would further enhance user friendliness and should therefore be prioritized by Startup X to reflect upon, since *User Friendliness* is considered to be the most important evaluation criteria by clients. The same goes for Visualization of Data, where an increased understanding of the data, and for the work, would have been provided by visualizations such as, for instance, graphs. However, it may be argued that this is more relevant for analysis on the budget work which BI-solutions currently focus on.

As for medium prioritized gains and pains, the pain of *Lacking Excel Import Functionality* is the only one which is not fully addressed; the reasoning is that while administrators are able to conveniently import Excel sheets using the *Administration Interface*, other users do not have this functionality which means that they are forced to manually copy and paste data. However, besides the fact that the pain is not considered to be within the HP-segment and thus not a highly-prioritized pain to relieve, it is argued that the pain is less relevant for the users of the offering. The premise of the offering is to remove the use of Excel sheets to begin with by having the offering as a solution to handle the data input which is currently conducted in Excel.

Therefore, by removing the use of Excel sheets, the pain of having to manually transfer data across Excel sheets is removed and becomes less relevant for the offering to address. Moreover, all of the gains and pains in the LP-segment which are insufficiently or not fully addressed are contended to not deserve the immediate attention of Startup X. All of these gains and pains, *Vendor Reputation*, *Vendor Competence* and *Large Vendors*, are vendor-related which are less prioritized in an evaluation of a budget and planning solution. These gains and pains are only deemed to not be addressed in a satisfactory manner due to Startup X being a startup. It is intuitive that the brand or reputation as well as the competence of a startup to be lacking in its initial phases due to limited experience in comparison to the larger and more established players. Experience and reference cases will take time to build and is not necessarily an aspect that Startup X has in its immediate control. Furthermore, addressing these gains and pains immediately would take away from addressing other gains and pains such as *Vendor Support* and *Close Vendor Relationship*, since these are gains which are created due to Startup X's limited size and flexibility.

Therefore, as an overall assessment of the Problem Solution Fit, the research concludes that Startup X's current value proposition is fairly well designed according to perceived value of the potential clients on the market. All mapped value creators of the offering address one or more gain or pain and thus provide customer value and a clear majority of all mapped gains and pains are addressed. However, the research does identify potential for improvement in the fit since there are gains and pains which are not created and relieved respectively in a satisfactory manner, especially in the segment of the highest prioritized gains and pains from both a strategic and operational perspective. If these were to be addressed, Startup X may create significant additional value towards clients and thus offer a more attractive value proposition.

7. Discussion

In this chapter, a reflection of the research outcomes will be discussed followed by short notes regarding the contribution of the research to Startup X and research in general, as well as suggestions for further research.

7.1 Factors Influencing Research Outcomes

In order to reflect upon the research outcomes, it is necessary to proceed from the actual purpose of the study; to investigate how Startup X's existing offering meets the market's perception of value in supporting the budgeting process. In general, the outcome of the research is perceived to fulfill this purpose by answering the three outlined research questions. Yet, a purpose can obviously be fulfilled in numerous of ways and are dependent on several factors. Delimitations, data sample, methods for analysis, and interpretations are all examples of factors influencing the character of the research and thus the research outcome as well.

In regards to delimitations, solely gathering data from companies operating on the Swedish market affects the research results. Even if technologies and software often are widely spread globally, organizational structures and processes, such as the budgeting process, usually differs. These processes do of course differ from company to company as well, but factors such as national regulations and culture make these differences, presumably, even larger across countries. Hence, a potential outcome of covering companies operating in different countries may had been a broader collection of identified gains and pains, but less recurring gains and pains among interviewed clients. Additionally, the delimitation in terms of gathering data from companies with at least 1B SEK in yearly revenues affects the type of gains and pains identified as well; while a large corporation perhaps emphasize a smooth integration due to their extensive IT architecture, a smaller firm may not see any value at all with an integration like this.

In terms of the data sample and the choice of interviewing 25 companies, a smaller number of interviews but longer ones would had most certainly affect the results of the research. Longer interviews may have allowed for even more follow up questions and perhaps a deeper understanding of each client's situation. On the other hand, the large number of interviews conducted is one of the strengths of the research since they provide a broader perspective of what the market desires and thus complements the specific insights that Startup X already possesses from their commercial pilot projects. Considering the other side of the scale, a more quantitative data collection could had been conducted as well and would had allowed for an even greater data sample. In line with previous reasoning, this greater data sample may have improved the credibility of the research, but obviously also limited the understanding of the data collected. Another aspect of the data sample and collection regards the interviewees per se; professionals with titles such as CFO or Group Controller, with insights into both managerial aspects in the budgeting process as well as in user aspects, represented both the strategic and the operational perspective in this research. With more time and resources, it had been beneficial to hold two separate interviews with each company: one with a manager giving the strategic perspective and one with an employee inserting numbers on operational level. Separate these types of interviews would perhaps had given a clearer distinction between the strategic and the operational perspective, which may have resulted in an improved balance between the number of strategic and operational gains/pains. However, considering available time to conduct this research, the approach of having interviewees with both strategic and operational insights was considered to be the most attainable.

Regarding the analysis, there are probably numerous alternative methods and aspects that could have been considered. An analysis per industry could be one alternative way of analyzing the

data, but would not necessarily add to the purpose of the research. Furthermore, a criticism towards the analysis could potentially be directed to the prioritization of gains and pains; the necessity of the step may be discussed since many of the gains and pains ended up in the same category. However, some conclusions could be drawn due to the prioritization, like how system related gains and pains seems to be more important than vendor related ones. Related to the prioritization, it could also be argued that one gain or pain could be linked to multiple evaluation criteria, which would contradict the use of them in the analysis.

Moreover, the dilemma of interpreting information in a correct way concerns both interpretation of collected data as well as clients' interpretation of questions asked. Qualitative interviews, and in this case semi-structured ones, allowed the researchers to confirm their understanding of answers by asking follow up questions as well as confirm that clients understood the questions correctly. Yet, holding all interviews in physical meetings rather than some on the phone would had been preferable to facilitate a correct interpretation, but this was not feasible due to time and resource limitations since clients were geographically distributed all over Sweden. During the physical meetings, interviewees also tended to show their current budget solutions and thereby show what they talked about, which enhanced the understanding of gains and pains. Regarding the survey conducted, a detailed description of each evaluation criteria would certainly had helped respondents to interpret each criterion in a correct way. However, since all respondents to the survey had been interviewed before answering the survey, they were all informed of the focus of the research. Lastly, returning to each respondent with a summary of interpretations to confirm correctness may have improved the credibility of the research even more. Yet, this was not done due to the risk of clients becoming defensive and revoke some answers, which is a risk with respondent validation (Bryman & Bell, 2003).

7.2 Contribution and Further Research

To discuss the impact of the research, it is important to consider Startup X's potential use of the research outcomes as well as how the research adds to existing research within the area. Hopefully, the research results will provide Startup X with new insights of their market and help them in their further development of their value proposition. If results presented in this research turns out to be information which they perceive as already being aware of, due to their agile product development in terms of commercial pilot projects, these results can at least confirm or strengthen their hypotheses of the market. Considering research in general, this research has contributed with a rather extensive data collection of how budgeting processes and solutions look like in large companies operating in Sweden. The research has also shown how field specific literature, such as Technology Acceptance, Budgeting and Planning, and Evaluation of IT solutions, could be combined with the concept of gains/pains and the problem solution fit (Osterwalder et al, 2014). Thus, this contextually-specific application of value proposition design on the B2B budgeting solution market may provide guidance to future value proposition design research within other markets and industries.

As previously mentioned, the research is of qualitative nature and rather constrained to a specific context. Thus, in order to determine if the conclusions are transferable or not, conclusions from similar research with other constraints have to be compared with the conclusions from this research. Suggestions for further research are thereby to apply the theoretical framework on data collected from other geographical areas or companies of another size. In addition, investigating the fit between a value proposition and customer segments' perceptions is solely a part of the Business Model Canvas (Osterwalder & Pigneur, 2010). Since all parts of the business model affect each other, further research should investigate other aspects of the business model and how they potentially affect the fit. Furthermore, Osterwalder

et al. (2014) emphasize that it exists three types of fit, where this research has only concerned the first, Problem Solution Fit. Therefore, it may be of value for further research to assess the other two types of fit as well, Product Market Fit and Business Model Fit. Considering the Customer Development Process (Blank & Dorf, 2013), this research explores a part of the Customer Discovery step and thereby allows further research into remaining parts of the Customer Discovery step, as well as remaining parts of the Customer Development Process as a whole.

8. Conclusion

In order to fulfill the purpose of investigating how Startup X's existing offering meets the market's perception of value in supporting the budgeting process, the following research questions have been answered: (1) *"how does the existing offering intend to provide value to the budgeting process?"*, (2) *"how does the market perceive value in terms of supporting the budgeting process?"* and (3) *"how well does the existing offering meet the perceived value of the market?"*. This has been facilitated with a primarily qualitative research approach in accordance with the explorative nature of the research purpose. The research has been guided by a theoretical framework, which is based on a review of relevant areas of literature and has thus been deductively formed. However, the outcome of the research is rather inductive, as in most qualitative research cases which aim to generate theory, and this means that a mix between inductive and deductive approaches have been applied in the research.

The qualitative research is primarily based on data from sales material regarding Startup X's offering as well as 25 independent client interviews related to investigating the market's perception of value; in addition, a client survey was conducted to generate quantitative data regarding how clients rank a list of criteria to be considered in a solution evaluation. Thereafter, the data was processed according to a grounded analysis approach where the material from Startup X as well as each client interview were investigated using open-coding. Each client interview was handled separately to begin with, before being investigated in unison to explore common themes and patterns. The analysis was supported by the theoretical framework and the underlying literature review, where value creators and gains/pains were identified based on material concerning Startup X and among explored themes and patterns in the client interview data respectively. Furthermore, in order to rank the identified gains/pains as part of the analysis, the quantitative data from the client survey was applied; thus, the survey data complemented and, to some extent, confirmed selective aspects of the analysis. As a last step in the analysis, value creators were matched with gains and pains to assess problem solution fit.

The answers to the outlined research questions are concluded in the mapping of value creators, gains and pains as well as a matching of value creators with these gains and pains. In total, 14 value creators in Startup X's offering were identified to support the budgeting process and thus outline the answer to RQ1 and how Startup X intends to provide customer value. In addition, 27 gains and 13 pains were identified and thus conclude the answer to RQ2 and how the market perceives value in supporting the budgeting process. Finally, RQ3 is answered by assessing how well the mapped value creators address the mapped gains and pains. All mapped value creators are addressing at least one gain or pain and therefore provide customer value. However, numerous of the highest prioritized gains and pains, both strategic and operational, are not fully addressed by the offering's value creators. Hence, potential improvements and adjustments to the value proposition can be made to better meet the market's perception of value. However, in general, the majority of the gains and pains are addressed to some extent by the outlined value creators and this indicates a problem solution fit that is relatively well-fitting. Moreover, suggestions for further research includes, for instance, an investigation of other components of the BMC in relation to the Value Proposition and Customer Segment components, as well as evaluation of other types of Fit as defined by Osterwalder et al. (2014).

References

Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Amit, R., & Zott, C. (2001). *Value creation in E-business*. Strategic Management Journal, 22(6/7), 493-520

Armbrust, M., Fox, A., Griffith, R., Joseph, A. D., Katz, R., Konwinski, A., ... & Zaharia, M. (2010). *A view of cloud computing*. Communications of the ACM, 53(4), 50-58.

Ax, C., Johansson, C., & Kullvén, H. (2009). Den nya ekonomistyrningen.

Baden-Fuller, C., & Morgan, M. S. (2010). *Business models as models*. Long Range Planning, 43(2), 156-171.

Baker, R. J. (2010). *Pricing on purpose: Creating and capturing value*. John Wiley & Sons.

Bangs, D. H. (2001). *Business Planning Guide*. Chicago: Dearborn Trade, A Kaplan Professional Company. Retrieved from http://ebookcentral.proquest.com/lib/chalmers/detail.action?docID=3016060

Behrens, S., & Sedera, W. (2004). *Why do shadow systems exist after an ERP implementation? Lessons from a case study*. PACIS 2004 Proceedings, 136.

Blank, S. (2013). *The four steps to the epiphany: successful strategies for products that win*. BookBaby. (a)

Blank, S. (2013). *Why the lean start-up changes everything*. Harvard business review, 91(5), 63-72. (b)

Blank, S. G., & Dorf, B. (2012). *The startup owner's manual: Vol. 1: The step-by-step guide for building a great company* (1.th ed.). Pescadero, Calif: K&S Ranch, Inc.

Bonoma, T. V. (2006). Major sales: who really does the buying?. Harvard Business Review, 84(7-8), 172-+.

Bryman, A. & Bell, E. (2003). *Business research methods*. [Books24x7 version] Retrieved from http://common.books24x7.com.proxy.lib.chalmers.se/toc.aspx?bookid=12878.

Byers, T. H., Dorf, R. C., Nelson, A. J., & VONA, R. (2013). *Technology Ventures*. McGraw Hill, Milano.

Cambridge Dictionary. *B2B*. Web. May 24th 2017. http://dictionary.cambridge.org/dictionary/english/b2b

Cambridge Dictionary. *Budget*. Web. May 24th 2017. http://dictionary.cambridge.org/dictionary/english/budget

Cambridge Dictionary. *Cost Center*. Web. May 24th 2017.
http://dictionary.cambridge.org/dictionary/english/cost-centre?q=cost+center

Cambridge Dictionary. *Planning*. Web. May 24th 2017.
http://dictionary.cambridge.org/dictionary/english/planning

Cambridge Dictionary. *Profit Center*. Web. May 24th 2017.
http://dictionary.cambridge.org/dictionary/english/profit-centre

Casadesus-Masanell, R., & Ricart, J. E. (2010). *From strategy to business models and onto tactics*. Long Range Planning, 43(2), 195-215

Chesbrough, H. (2007). *Business model innovation: It's not just about technology anymore*. Strategy & Leadership, 35(6), 12–17.

Chesbrough, H. (2010). *Business model innovation: opportunities and barriers*. Long range planning, 43(2), 354-363.

Chesbrough, H. & Rosenbloom, R.S. (2002). *The role of the business model in capturing value from innovation: Evidence from Xerox corporation's technology spin-off companies*. Industrial and Corporate Change, 11(3), 529-555

Coombs, H. M., Hobbs, D., Jenkins, D. E. (2005). Management accounting: Principles and applications (1st ed.). Thousand Oaks, London; SAGE Publications.

Davis Jr, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (Doctoral dissertation, Massachusetts Institute of Technology).

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). *User acceptance of computer technology: a comparison of two theoretical models*. Management science, 35(8), 982-1003.

Drury, C. M. (2013). *Management and cost accounting*. Springer.

Easterby-Smith, M., Thorpe, R., & Jackson, P. (2015). *Management and business research* (5th ed.). London: SAGE.

Eriksson, P., & Kovalainen, A. (2015). *Qualitative Methods in Business Research: A Practical Guide to Social Research*. Sage.

Feinleib, D. (2011). *Why startups fail: and how yours can succeed*. Apress.

Forman, H., Lippert, S. K., & Kothandaraman, P. (2007). *Understanding users' performance evaluation of IT solutions*. Industrial Marketing Management, 36(6), 745-756.

Friend, G., & Zehle, S. (2008). *Guide to business planning*. London: Economist Books

Gartner IT Glossary. *Software-as-a-Service*. Web. May 24th 2017. http://www.gartner.com/it-glossary/software-as-a-service-saas/

Gartner IT Glossary. *Solution.* Web. May 24th 2017. http://www.gartner.com/it-glossary/solution/

Goodman, L. A. (1961). *Snowball sampling.* The annals of mathematical statistics, 148-170.

Havaldar, K. K. (2005). *Industrial marketing: text and cases.* Tata McGraw-Hill Education.

Hope, J. & Fraser, R. (2003). *Beyond budgeting: how managers can break free from the annual performance trap.* [Books24x7 version] Retrieved from http://common.books24x7.com.proxy.lib.chalmers.se/toc.aspx?bookid=8386.

Horngren, C. T (2014;2013;). *Introduction to management accounting* (Global of sixteenth ed.). Harlow: Pearson Education.

Investopedia stock analysis: *What's the difference between budgeting and financial forecasting?* (2015). Chatham: Newstex. Retrieved from http://proxy.lib.chalmers.se/login?url=http://search.proquest.com/docview/1674705774?accountid=10041

Johnston, W. J., & Lewin, J. E. (1996). *Organizational buying behavior: Toward an integrative framework. Journal of Business research*, 35(1), 1-15.

Kambil, A., Ginsberg, A., & Bloch, M. (1996). *Re-inventing value propositions.*

Keillor, B. D. (2007). *Marketing in the 21st Century.* Greenwood Publishing Group.

Kekre, S., Krishnan, M. S., & Srinivasan, K. (1995). *Drivers of customer satisfaction for software products: Implications for design and service support.* Management Science, 41(9), 1456-1470. doi:10.1287/mnsc.41.9.1456

Kotler, P., Armstrong, G., Harris, L. C., Piercy, N. (2013). *Principles of marketing* (6th European ed.). Harlow, UK: Pearson.

Lalli, W. R. (2011). *Handbook of budgeting* (Vol. 562). John Wiley & Sons.

Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, B. (2004). *Customer value, satisfaction, loyalty, and switching costs: An illustration from a business-to-business service context.* Journal of the Academy of Marketing Science, 32(3), 293-311

Lindič, J., & Marques da Silva, C. (2011). *Value proposition as a catalyst for a customer focused innovation.* Management Decision, 49(10), 1694-1708.

Leszinski, R., & Marn, M. V. (1997). *Setting value, not price.* The McKinsey Quarterly, (1), 98-116.

Magretta, J. (2002). *Why business models matter.* United States: Harvard Business School Press.

Marangunić, N., & Granić, A. (2015). *Technology acceptance model: A literature review from 1986 to 2013.* Universal Access in the Information Society, 14(1), 81-95. doi:10.1007/s10209-014-0348-1

McKinsey. *Breaking through the start-up stall zone.* McKinsey & Company, Feb. 2014. Web. 26 Jan. 2017. http://www.mckinsey.com/industries/high-tech/our-insights/breaking-through-the-start-up-stall-zone

Morris, M., Schindehutte, M., & Allen, J. (2005). *The entrepreneur's business model: Toward a unified perspective.* Journal of Business Research, 58(6), 726-735.

Nickson, D. (2008). *IT Procurement Handbook for SMEs. BCS*, The Chartered Institute.

Osterwalder, A. (2004). *The Business Model Ontology-a proposition in a design science approach.*

Osterwalder, A., Pigneur, Y., & Tucci, C. L. (2005). *Clarifying business models: Origins, present, and future of the concept.* Communications of the association for Information Systems, 16(1), 1.

Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: a handbook for visionaries, game changers, and challengers.* John Wiley & Sons.

Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2014). *Value proposition design: How to create products and services customers want.* John Wiley & Sons.

Otley, D., & Emmanuel, K. M. C. (2013). *Readings in accounting for management control.* Springer.

Polyviou, A., Pouloudi, N., & Rizou, S. (2014). *Which Factors Affect Software-as-a-Service Selection the Most? A Study from the Customer's and the Vendor's Perspective.* In System Sciences (HICSS), 2014 47th Hawaii International Conference on (pp. 5059-5068). IEEE.

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance.* New York: Free Press.

Reichheld, F. F. (1994). *Loyalty and the renaissance of marketing.* Marketing Management, 2(4), 10.

Ries, E. (2011). *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses.* Crown Business.

Salem Khalifa, A. (2004). *Customer value: a review of recent literature and an integrative configuration.* Management decision, 42(5), 645-666.

Teece, D. J. (2010). *Business models, business strategy and innovation. Long range planning*, 43(2), 172-194.

Treacy, M., & Wiersema, F. (1997). *The discipline of market leaders: Choose your customers, narrow your focus, dominate your market.* Basic Books.

Truex, D. P., Baskerville, R., & Klein, H. (1999). *Growing systems in emergent organizations*. Communications of the ACM, 42(8), 117-123.

Weber, R. P., & Stevenson, W. C. (1981). *Evaluations of accounting journal and department quality*. Accounting Review, 596-612.

Webster, F. E., & Wind, Y. (1972). *A general model for understanding organizational buying behavior*. Journal of Marketing, 36(2), 12-19.

Wei, C. C., Chien, C. F., & Wang, M. J. J. (2005). *An AHP-based approach to ERP system selection*. International journal of production economics, 96(1), 47-62.

Woodruff, R. B. (1997). *Customer value: the next source for competitive advantage*. Journal of the academy of marketing science, 25(2), 139.

Zott, C., Amit, R., & Massa, L. (2011). *The business model: Recent developments and future research*. Journal of Management, 37(4), 1019-1042

Appendix A: Interview Template

Company Representative:
Interview Date:

Background

Q1 Could you please describe your role at the company in brief, and how you are involved in the company's budgeting process?

Q2 Which systems do you currently apply to support in your budgeting process, and why?

Q3 Which employees within your organization use these systems or solutions?

Budgeting Process

Q4 Could you please elaborate on the hierarchy in regards to the budgeting process in your organization?

- *Organizational levels for budgeting*
- *Responsibility distribution in regards to acceptances and approvals*
- *What support does the system(s) you are using provide and what are the pros/cons of using the system(s)?*

Q5 On which level of detail is budgeting within your organization conducted and how is the structure for each sub-budget determined?

- *Types of sub-budgets*
- *Activity-based budgeting*
- *Number of dimensions*
- *What support does the system(s) you are using provide and what are the pros/cons of using the system(s)?*

Q6 Would you say that…

"...your budgeting process proceeds from budgets on an operational level, which are then aggregated into one consolidated budget"?

or

"...your budgeting process proceeds from a strategic level where budgeting is then decomposed into multiple budgets, which are thereafter scrutinized on an operational level"?

- *What support does the system(s) you are using provide and what are the pros/cons of using the system(s)?*

Q7 How is communication conducted within your budgeting process?

- *Acceptances and budget feedback on different levels*
- *Guidelines from executives and management*
- *What support does the system(s) you are using provide and what are the pros/cons of using the system(s)?*

Procurement Process

Q8 Which roles within the organization are primarily involved in the evaluation of budget system investments?

Q9 Which criteria do you consider when evaluating a budget system investment?

- *System-related (user friendliness, flexibility etc.)*
- *Vendor-related (service, reputation, competency etc.)*
- *Cost structure (per user, per functionality, per time period etc.)*

Appendix B: Client Interviews

Interview Company A

The interviewee has been a part of the corporate group since 2013 and is currently a part of the group management as a CFO. Previously, he has held the role as a Financial Director for an individual business unit within the corporate group. In his current role as a group CFO, the interviewee has the ultimate responsibility for budgeting in the group. With regards to budgeting solution and software, consolidation software is used to support the budgeting process on a group level, and this group consolidation entails aggregation of individual subsidiary budgets created on more operational levels; these operational levels refer to geographical region and production facility, for instance, within each subsidiary. To a large extent, individual budgets are assumed to be created and managed using spreadsheets in Microsoft Excel.

Budgeting Process

Company A is a large corporation with numerous subsidiaries and they are responsible for their own budgeting processes. Few instructions are provided by the corporate level regarding separate subsidiaries' way of budgeting. Hence, budgeting processes from one subsidiary to another could differ significantly and a general description of budgeting within the corporation does therefore not exist. Considering the aggregation of budgets on a corporate level, financial managers for each subsidiary are responsible to submit a budget which fulfills the objectives provided by the corporation management. This aggregation of subsidiary budgets is handled in a consolidation solution solely used on corporate level.

On a subsidiary level, it is, as previously mentioned, difficult to provide a general description of the budgeting processes within the corporation. However, within each subsidiary, it exists some different sub-budgets such as for sales, pricing and costs. Moreover, specific sub-budgets are often framed differently in different departments or regions within a subsidiary. As an example, a sales budget in one region can be designed in one way to fit that region's operations, while another region's sales budget is designed in another way. The fact that generic sub-budgets would not be suitable overall in a subsidiary is the main reason as to why systems, which are specifically developed for budgeting, are generally not used in the corporation. Instead, the major part of the budgeting within the subsidiaries are managed in Microsoft Excel since it is able to provide the flexibility required.

Regarding consolidation of budgets in the hierarchy within subsidiaries, Microsoft Excel lacks specific functions to support this and handle multiple users. Hence, consolidation, confirmation and communication in relation to budgets are done by e-mail or phone. The actual aggregation of budgets is then manually done by managers, throughout the hierarchy, by merging Excel sheets. Considering the insertion of the actual data, the usage of reference values presenting previous years' results are emphasized. Proceeding from historical outcomes is often a successful way to come up with a budget which will be in line with next year's outcome since it is impossible to foresee the future.

Procurement

In regards to procurement of budgeting systems, the financial department has more or less the sole responsibility in the decision-making process of evaluating potential purchases and acquisitions of systems and software; HR may be involved to a smaller extent. The reasoning is referred to the fact that the usage of the systems and software are essential and making sure

that they actually benefit the budgeting work. The role of IT becomes relevant when the actual procurement process has been finalized and focus is shifted towards implementation in the existing business system.

Interview Company B

Company B employs about 300 people in the Gothenburg region and is part of a larger national corporation. The interviewee is a member of the management team and holds the position as CFO at the company. In order to manage the overall business planning process, where financial control functions as a subcomponent, Company B is using the software solution Hypergene. Focusing on the financial control, and primarily the internal part in terms of budgeting, Hypergene supports the process from insertion of data on operational level to presentation of data on management level. Microsoft Excel is used as an complementary tool to do underlying calculations, such as calculating employee social fees, since Hypergene does not support this without choosing another module that includes these functions. In Company B, all people involved in a profit center are responsible for certain parts of the budget and they are consequently also involved in the budgeting process, which means that they are all using Hypergene to some extent. Among the people using Hypergene, five of them are controllers and primarily responsible to operate the overall budgeting process. Regarding the role of the CFO, she is in charge of delivering the overall budget of the company, but also operationally responsible for the specific profit center "Finance" with 20 employees.

Budgeting Process

The budgeting in Company B is considered to be a component of the larger financial control process, which in turn is a component of the business planning process. Thus, the intention is to shape the financial work, including budgeting and control, based on the company's organization. Furthermore, the financial work needs to follow logics in order to retain structure. In order for this to be possible, the entirety of the business planning is supported by the use of Hypergene. The tool is integrated with other systems and software used by the company, such as personnel administration and salary management, and is thus able to provide a comprehensive picture of the business planning where complete processes are visualized and approval flows can be managed. This comprehensiveness and logic is described as one of the major strengths of Hypergene as the company is, for instance, able to understand the numbers from a profit center on a high level by delving into specific costs and the underlying invoices. Controllers are responsible for the setup of workflows in Hypergene and these workflows should reflect the organizational structure.

Rather than conducting budgeting work every quarter, the company conducts budgets every four months. In principle, driver-based budgeting is not applied and budgets are rather based on the previous period's data; thus, reference values are presented in Hypergene's input view. However, as previously described, the intention is to shape the budgeting work based on the business planning. Therefore, specific days for strategic discussions and employee contributions are organized to support the business planning and also serve as budgeting guidelines from management. It is then the different profit centers' responsibility to act on the guidelines but these guidelines are not communicated through Hypergene. While budgets are managed using multiple dimensions including cost center, project, profit center, period, region and company (internal units), profit center and period are mentioned as most important; the intention is to also include customer as a dimension in 2018.

As a major part of the company's business is driven by project work, project budgets are constructed. These project budgets are built from an operational level and is then used on an executive level as basis for decision, for instance in regards to investments. A project is in general separated into different phases which means that employees may be responsible for different parts of the project budgets. However, everyone is provided with the same input view

of the project budget since project budgets are constructed as immediate result budgets without underlying sub-budgets as drivers; the same applies for profit centers. Thus, the input view of the project budgeting is indifferent of the area of responsibility for a specific project employee and the responsibility for project budgets as a whole fall on the project managers. Project budgeting is continuously worked on as the project progresses and functions as a means to improve forecasting.

Moreover, different user roles are defined in Hypergene. This allows for a separation of access levels within Hypergene and means that users can be presented with relevant information for their specific tasks at hand. For instance, not all users will have access to the entire business planning and what users are presented with is determined by the users' respective role within the company; this is primarily based on the profit center which the user belongs to. Thus, multiple users may have access to the same panel of input simultaneously which means that data may be altered at the same time. A comment function exists to complement the budgeting work where users are able note their changes, but this function is described as poorly presented and can become a hassle to keep track of.

Procurement
Company B procured the tool Hypergene in 2014 in order to manage their business planning process, not just their budgeting process. In the evaluation process, the IT department as well as the management team were involved, where the CFO had the last call. The choice of Hypergene was based upon two main criteria; user friendliness and ability to manage the whole business planning process. User friendliness is prioritized since people on operational level in all parts of the organization are supposed to understand and use the tool in a smooth way. The ability to manage the whole business planning process refers to benefits of using one single tool, where all functions from insertion of data to presentation of data are all managed in one integrated solution. Besides these two criteria, the decision was also made based on personal experience, where the CFO had been using this tool in an earlier position at another company. Prior to Hypergene, Company B were primarily using Excel. However, in a company with many requirements regarding transparency due to, for instance, ISO certification, managing the process in Excel becomes complex and insufficient.

Interview Company C

Company C is a multinational group focused on supply chain services and is a wholesaler of industrial parts. The group has around 1000 employees in total and these are shared between 30 subsidiaries, which are separated into seven regions. The subsidiaries are active in the Nordics and in continental Europe and differ in size; they range from generating 1,5M SEK in revenue per month to around 50M SEK per month. The interviewee has been an employee for over 18 years and has held the role as CFO for the group since 2005, but has previously been responsible for finances on a subsidiary level.

When it comes to business planning and control, including budgeting, the group is stricter in their assessments of bigger subsidiaries. Furthermore, the group has in recent years begun to emphasize budgeting more and this can be attributed to the fact that the group went public in 2014, which in turn require more structure and control. Out of the 1000 employees within the group, 150 to 200 is approximated to take part in budgeting work which in large include sales personnel, personnel within the finance function, subsidiary CEOs and personnel from purchasing. The budgeting work is regarded as being simple and conventional by using Microsoft Excel.

Budgeting Process

In Company C, the focus is on what the interviewee refers to as "strategic work" rather than the budgeting in itself. Every individual subsidiary creates its own strategic plan as part of the business planning process and outlines the plan in both qualitative and quantitative terms for the coming three years. Thereafter, representatives from all subsidiaries meet and have the opportunity to present their strategic plan, after which feedback is given from a group executive level. In simplified terms, the first year of a subsidiary's strategic plan becomes the subsidiary's budget and all subsidiaries have opportunities to make adjustments before submitting it to the group. The aggregated subsidiary budgets become the final group budget.

When it comes to costs, material costs are regarded as the biggest cost component and is approximated to around 65% of sales. Due to Company C's type of business of wholesaling industrial parts, material costs are driven by the sales number. Therefore, since the sales function possess the most accurate knowledge of sales numbers and profit margin on sales, sales personnel also have the responsibility for budgeting the material costs on top of being responsible for budgeting of actual sales. The material costs budgeting may also be supported by the purchasing function. In the bigger subsidiaries, the ones responsible for cost centers also have the responsibility for indirect costs; for instance, the interviewee is responsible for indirect costs for the cost center "Finance" in his role as CFO. When it comes to the actual budgeting of the indirect costs, such as payroll, rent and other external costs, finance personnel and combination with the appropriate CEO are in charge. Approximately 65% of all indirect costs can be attributed to the payroll including social fees.

Across the entire group, Jeeves has been implemented as the ERP system of choice. Thus, on an operational level in each subsidiary, budgeting is being conducted on an accounting plan level for each cost center and only two dimensions are used: account and cost center. Moreover, Jeeves provide reference values or historic values for all accounts associated with each cost center. In other words, while each subsidiary is not constrained to follow a standard template for the entire corporate group, Jeeves provides a budgeting template for each cost center with all accounts that need to be budgeted. Based on this template with given historic values, the

budgeting for the forthcoming period is then estimated using Microsoft Excel by having the budget column for the next period to the right of the column with historic values.

Thereafter, for each subsidiary, personnel from the finance function consolidates the different Microsoft Excel sheets for each cost center. Due to each subsidiary having only around 10 cost centers and 5-10 employees responsible for the cost centers, consolidating Microsoft Excel sheets on a subsidiary level is not considered difficult due to the lack of size and complex line of business. Therefore, Jeeves has not been required to provide any functionality regarding flows for consolidation as it is handled manually using Microsoft Excel. Finally, the group make use of the consolidated Microsoft Excel data for each subsidiary by making a final consolidation of all subsidiaries' values and then allocates the values over a period of time according to certain keys.

Procurement

Company C is currently using Excel for budgeting and has not planned to procure a specific tool suited for the budgeting process in the near future. Their data is just sliced by two dimensions, account and cost center, which implies a relatively incomplex level of budgeting, which is why Microsoft Excel is considered to be good enough. Furthermore, the primary value-add of Microsoft Excel lies in its flexibility and the simplicity in making changes for the next periods. It should however be noted that control may be lacking by using the tool as changes in formulas, for instance, are very easy to manipulate.

In order for a budgeting tool to be considered, the interviewee propose that a more complex budgeting process, including more dimensions, would be required. However, using more dimensions is not something that will happen in Company C in the upcoming five years. A larger number of users could be another aspect that would make a budgeting tool interesting if it would reach a point where collecting and merging Microsoft Excel sheets becomes problematic; the company is in general always striving for simpler and quicker processes. If Company C would look for a specific tool for their budgeting process, focus would be on users in the organization and ensuring that the tool is perceived as a resource to help them complete their tasks.

Interview Company D

Company D is a Swedish group that is active within a multitude of business segments in all parts of the supply chain and conducts its business on an international scale. The heterogeneity in operations is reflected in the company structure, as the company is separated into four divisions. The interviewees are both Business Controllers on a group level and have been a part of the company for the last several years. One of them has a more strategic responsibility, which include to ensure that the budget process is kept intact and with structure; this entails deriving budget goals from the long-term business planning as well being responsible for consolidation of budget data from the different divisional units. The other interviewee has more of an operational responsibility in the budgeting work, which includes managing the budgeting and planning tools used in the budgeting process; thus, he makes sure that the systems are technically capable to do the intended functions.

The company are applying IBM-based solutions, where the central budget and planning tool used on a group level is TM1 Planning. Here, data is read and entered by system users to be consolidated on a group level, but individual business units within the four divisions may have their own versions of TM1 Planning; in fact, most of the larger business units have customized versions TM1 Planning which are designed for their specific operations. Moreover, the individual business units also use other systems and tools to complement the budget work and this is often Microsoft Excel. However, indifferent of whether the individual business units have multiple systems for the job, the final job is always to enter every single business units' budget data into the group's TM1 Planning system for consolidation. The actual users of the set of tools are employees within the finance functions within the different business units and it is thus difficult to estimate the total number of system users, since costs are budgeted according to accounts.

Budgeting Process

In Company D, the main focus is on the business planning and the strategic direction of the group and budgeting is only one aspect of this. Thus, on a group level, budget goals are established based on long-term business plans. These goals are then given as guidelines to the different divisions where the expectations of the divisions are stated. It then becomes the responsibility of the respective division to make sure they reach the owner expectations by budgeting for them on a more organizational level, for instance per geographical region and production unit. In other words, the group are not concerned with how the divisions reach the expectations operationally and the budgeting process is conducted with a mixed approach with initial strategic expectations from an executive level, which then guides the operational budgeting from a bottom-up perspective. On an executive level, the only operational budgeting is done for group investments.

Operationally in the divisions, the level of budget detail is decided within each division and is aligned with the type of operations in respective division. Each division may also have additional budgeting tools that complements TM1, and this also affects the degree of detail in the budgeting. Generally speaking, however, a high degree of detail on this operational level is considered to be important since small factors may have great influences on the end results. The focus in the budgeting is also differentiated between the divisions since some need to focus on sales while others need to cut costs. In regards to budgeting in Microsoft Excel, this is considered to be a standard and at least a starting point for budgeting in most instances across the divisions in general. The work in Microsoft Excel can be conducted on a very detailed level and the work is then transferred, in an aggregated form, into each division's version of TM1

and an integration between Microsoft Excel and TM1 has been constructed to make this transfer easier. Lastly, the results of each division's budgets are then consolidated into the group's TM1.

Divisions may apply driver-based budgeting depending on their operations and this is also constructed according to their command, and activities are stated aside from the operational budgeting as a means to explain how to reach the expectations and budget goals; the initial strategic guidelines from the executives shape these activities. Therefore, these activities work as a means of communication and Company D has a fairly mixed approach to communication in general; within TM1, acceptances, tracking of changes and work progress can be followed, while goals and discussions are conducted outside of the tool through, for instance, meetings and e-mail.

In regards to TM1, Company D is pleased with how the system works. Since TM1 is such a complete system and has so many components in place, there are generally not many technical issues to deal with and all components work well together. This also enables ease of use since the interface is the same for each application and this improves user friendliness. Furthermore, while IBM may not be the easiest vendor to talk to due to their sheer size and the vendor does not provide the newest functionality that quickly, there are plenty of consultancy firms which possess knowledge of the system and are able to help, for instance when a specific division needs some type of customized solution. Thus, it is generally not too difficult to configure the actual system; the challenge is rather in preparing the organization for the changes and the system implementation.

Procurement

The current system used, TM1, was implemented in 2011 as part of a larger overhaul of the entire budget and planning process. The company aimed for a more complete solution that could support more or less the entire budget and planning process, including planning, consolidation and analysis through Business Intelligence within the same system and be delivered by a single vendor. Therefore, this restricted the scope of potential system alternative since such complete solutions are rare but out of the potential alternatives, TM1 as an IBM product was chosen.

While the intention was to implement a solution that could fit all areas of the heterogeneous organization, this was found to be impossible. Therefore, it was decided that a system that could be adapted with different modules would suffice, where the module for group consolidation was to become the center of the system. This was something IBM's TM1 supported and furthermore, IBM's solutions were familiar to many of the employees within the company. Even though TM1 is the primary system used in the organization and no other system can be procured due to contract obligations, the different divisions and operational areas have not been required to move away from using their previous budgeting tools to complement TM1.

When the decision was taken, the intention was to involve a wide array of functions within the organization to take in all organizational perspectives. This involved the different divisional units, for instance, but in the very end, the experts in regards to IT and finance have the greater say in the decision. IT experts are needed since they are responsible for the system environment and to make sure that integrations are in order and that maintenance are conducted in a proper manner. The importance of finance experts is justified to ensure usability of the system; a tool needs to have proper usage areas and not only be procured to solve one-time problems.

In addition, while functionality is an important aspect, it is not necessarily the most complex system with the most amount of functions that finance experts prefer. Instead, the organization

is considered to not be too dependent on system and tools, which means that systems and tools chosen is only required to be sufficiently capable. However, the most important aspect of functionality needs to be up to standards, and that is the consolidation mechanism; Company D as a group acquires and sells business areas on a continuous basis and the system thus needs to adapt to new organizational structures easily. This dimension of uncertainty regarding the organization also affects the payment terms, and Company D is therefore preferring payment structures which are predictable.

Interview Company E

Company E is a polymer engineering group with over 20 000 employees. It conducts business in over 40 countries worldwide and the business is separated into six different business areas; these different business areas are then further separated into business units. The interviewee has held the role as Group CFO since 2012 and but also has experience in the same role within other organizations. In regards to budgeting, the finance function on a group level has the responsibility to provide instructions and guidelines for the underlying business areas, for instance if there are changes in relation to previous periods to be made.

Since the group has a decentralized approach to operations, the group does not apply the same systems and tools across the entire group. Moreover, the different organizations are in general not using any specific budgeting tools but rather make use of different ERP systems, such as Movex and Microsoft Dynamics, in combination with Microsoft Excel. However, on a group level, SAP's Business Planning and Consolidation is used and the organization is content with the tool.

Budgeting Process

As previously stated, the company aims for a decentralized approach. Thus, each business area has the responsibility to reach the goals outlined by group executives, and each business unit has the responsibility to reach the goals outlined by business area executives, and so on. This decentralized approach, and the freedom given to the different business areas, is reflected in the lack of a standard for budgeting across the entire group and budgeting processes may differ significantly between business areas due to the differing organizations within them.

In regards to actual budgeting itself, Company E refers to forecasting. This is done every fall for the forthcoming fiscal year, and instructions from group executives are given to the different business areas in the beginning of the summer before the vacation period. These instructions lead to data being formatted according to a specific template which include and describe what the group management want to understand about the different business units; for instance, forecasted values need to be complemented with assumptions about demand, price changes and risk factors, and a presentation about how the ongoing fiscal year is compared to last year's forecast should be presented. Thus, from a forecasting standpoint, the only aspect that is controlled from a group level is how values are entered into the group's consolidation system and how each business area presents its information.

Then, the different business areas begin the operational forecasting work in September of each year. Similar to how group management interact with the business areas, the business areas then give their instructions to their underlying business units. This is continued down through the organization. Thus, the forecasting itself is started from the most operational levels where it is generally conducted using Microsoft Excel and different ERP systems; Microsoft Excel is used for the forecasting groundwork before entering the forecasted values generated in the ERP systems for each cost center. Thereafter, values are consolidated for each organizational level and continuous up through the organization before the consolidated data for each business area is entered into the group's consolidation system. This results in a presentation of all business areas in a Microsoft PowerPoint format, which is structured according to the template given. This presentation is the material used to assess the budgets of the different business areas.

Procurement

Each business area has the responsibility to reach the goals which have been concluded by group executives. Therefore, each business area also has the freedom to choose how to reach these goals, and this is reflected in their ability to choose the tools needed to do so without input from a group level. In general, budgeting is not assumed to be done using any specific budgeting tools on an operational level but rather using Microsoft Excel after which data is transferred into ERP systems. However, continuous evaluations of budgeting processes are conducted but the reason as to why no specific budgeting tools are used is referred to the fact that all data must be entered into the ERP systems in the end.

In regards to procuring budgeting tools, the only aspect that would limit the operational units' freedom of choice is that the group's consolidation system must be used, SAP's Business Planning and Consolidation; all companies that belongs to the group must enter their data into that consolidation system. However, the interviewee has meetings with the different business areas' controllers on a regular basis and this functions as a forum to discuss and evaluate the budgeting process. For instance, the business areas may put in requests to change the consolidation system such as UI improvement.

Interview Company F

Company F is a Swedish retail chain which has over time expanded its footprint from Sweden to the greater Nordic market and operates more than 100 retail stores in total. The interviewee is a Group Business Controller but has also held other roles previously within the company, and his areas of responsibility include internal reporting to group executives such as management, board members and company owners. In regards to the budget process, the interviewee is primarily responsible for the budget process to allocate costs for the group; this includes costs analysis and forecasting.

The interviewee is the one who has the most responsibility for operational execution of the budget process. Currently, the ones conducting the budgeting work includes group controllers at the head office as well as controllers at every regional office and in total, around 20 employees are involved. Every department, such as sales, finance and IT, is regarded as a cost center and there should be at least one responsible to budget for each cost center. In addition, there employees responsible for individual accounts across all departments.

IFS is currently the provider of an ERP system for Company F. With regards to this, a Microsoft Excel-based plugin from Novacura is used for the cost budget process; the same principle applies for the sales budget process, but a different Microsoft Excel plugin is used. The plugin is able to transfer budget data to and from the ERP system provided by IFS, while enabling the usage of Microsoft Excel for reading and editing budget data. This means that employees responsible for budgeting do not have to open up IFS at any point in time, and Microsoft Excel becomes the main user interface.

Budgeting Process

In previous years, approximately 15 years ago, the budgeting process started with budgeting for each individual retail store; every store manager had the responsibility to establish budgets for his or her store. Afterwards, these individual store budgets were then aggregated upwards in the company to provide a single budget. However, this has since changed and budgeting starts from an executive level. Here, the work is initialized through a discussion between the executive group, the sales department and each country office. This takes place once each year and the discussion is revolving around how the coming period will change in relation to previous periods. This discussion results in an estimated sales budget for the company as a whole, which is then communicated to the regional offices.

The regional offices, for instance country offices, have the responsibility to distribute the total sales budget to the different stores within the regions. The regional offices also take the responsibility to spread the sales budgets for each store over time, for instance over a week or month due to seasonal demand changes. This sales budget is followed up more or less daily, in terms of both sales and margins, to make sure that operations is on track to reach its budget goals. This level of budget depth makes the sales budgeting quite complex and the sales budget is used as a basis for the costs budget. The costs that arises due to the sales operations are also followed up but on a more infrequent basis, approximately once per month, and the interviewee meets with regional managers once per month.

Prior to the usage of the Microsoft Excel-based plugin developed by Novacura, the company had a budget template for each account. Thus, employees who had the responsibility to budget for entire cost centers, such as departments or stores within the company, were forced to make multiple separate budgets for each account. Since implementing Novacura's plugin however,

the budget templates have become much more flexible and they can be customized according to the responsibilities of the employees; relevant information is displayed according to these responsibilities through the setup and access rights in the plugin, which the interviewee is in charge of setting up.

Therefore, relevant accounts or cost centers can be presented within one Microsoft Excel sheet for users and this flexibility is one of the reasons as to why Company F is happy with the Novacura plugin, together with its ease of use. Microsoft Excel is considered a standard which most people are comfortable working with, which means that the user interface is optimized for the budgeting work. Furthermore, the plugin adds standard budget functions such as historical percentages for costs to derive cost posts in absolute numbers, in order to make the budgeting work easier. One of the negative aspects of using Microsoft Excel is usually referring to the lack of control and stability as they are very easy to modify, but since Company F is using Microsoft Excel as a mere input tool, with data being retrieved and stored in IFS, this becomes less of a problem. Users are more or less presented with empty budget templates to begin with, which evades the risk of destroying underlying formulas or structures.

Procurement

As of today, Company F is considered to be happy with the current setup of tools to assist in the budget process. Novacura's Microsoft Excel plugin was chosen and implemented around 4-5 years ago at a point in time when Company F had a custom, in-house developed budget system which was complex and difficult to use. That was the reason as to why the company decided to look at other options. The major roles included in the evaluation process were the interviewee himself, who ensured needed budget functionality, and the CFO, who confirmed financial aspects such price and payment structure. The CTO was also involved to some degree in order to ensure compatibility with existing systems.

As mentioned, Novacura's Microsoft Excel plugin was chosen based on three main reasons: ease of use, integration with IFS and price. The tool needed to be easy to handle and manage on a daily basis for users but still have the capability to handle more complex functionality and make budgets on a more detailed level, such as per store basis; with Microsoft Excel, users are used to the interface and with the addition of functions through Novacura, the extended functionality was reached. Moreover, since all budget data needs to enter IFS at some point, integration with the ERP system was considered important. This is especially important since sales budget changes are made on a daily basis which means that data consolidation needed to be automated in IFS; previously, all changes needed to be consolidated manually in IFS. With Novacura being experts in IFS solutions, the company could provide a seamless integration between Microsoft Excel and IFS.

Lastly, the price was also a deciding factor. The other options that were considered were larger and more complete solutions, which also had a larger price tag. Furthermore, they required an ongoing payment due to data storage in the cloud, while Novacura's plugin only costed Company F the initial consulting hours for the system setup. However, it should be noted that even if these alternative solutions were in the same price bracket as Novacura, Company F would most probably still choose Novacura as the extra functionality and completeness was unrequired. A more complete alternative would only be considered if Company F would go back to its old ways of budgeting from a store level first or other reasons to bring in more of the budget process, such as Business Intelligence functionality, within the same system. Today however, the company uses a separate system for Business Intelligence functionality.

Interview Company G

Company G operates within the construction industry with focus on commercial development in the Nordic area. It is one out of thirteen business units in a larger construction corporation and employs about 114 people, where the interviewee holds the position as CFO in this specific business unit. A lot of her work and energy is dedicated to conducting proper forecasting, which is a critical component in the overall corporation, since the business relies on large construction projects and engages a large amount of capital. In order to manage and support the forecasting process, Company G utilizes a combination of tools, including ExOpen, Microsoft Excel and Hyperion Financial Management. ExOpen is the tool primarily used in this process and is specialized to support budget and forecasting. However, since the installation of ExOpen in Company G lacks the ability to support forecasting on a desirable level of detail, Microsoft Excel is applied as a complementary tool. Lastly, aggregated forecasts from ExOpen and Microsoft Excel are reported in to Hyperion Financial Management. Creating forecasts engage a large amount of people in the organization and everyone responsible for a profit center or involved in projects are using ExOpen and Microsoft Excel, while solely the financial department has access to Hyperion Financial Management.

Budgeting Process

Budget is not a term that is used in Company G; instead, the company emphasizes forecasting. Company G works with rolling forecasts which is updated every quarter, with a time frame of six to nine quarters. In general terms, the forecasts in Company G are established at an operational level and are then consolidated through the organization up to management, where they are reviewed and possibly adjusted to fit overall goals. Initial forecasts on operational level are divided per project and are then aggregated at a regional level. Regional level management then reviews forecasts and eventually pass on the aggregated forecasts to the management of the overall business unit. Usually, forecasts are initialized about one month before management is expected to have them completed. Hence, considering that forecasts are delivered every quarter, working with forecasting is more or less an ongoing process during the entire year.

Communication and feedback regarding work with forecasts are primarily conducted during forecast meetings, which are frequently scheduled. Tools, such as ExOpen, are often utilized during these meetings to support more detailed discussions. Overall, forecasting is an iterative process where data is discussed forth and back on different hierarchical levels. Similar to regional managers receiving feedback from the business unit management, business unit management could also receive feedback from corporation management regarding desired adjustments. The forecasting process proceeds from the business plan which covers how the business plans to operate in the upcoming five years.

ExOpen and Microsoft Excel are as previously mentioned the two tools primarily used in the forecasting process. ExOpen supports aggregation of forecasts in the tool, with the possibility to create reports on both an aggregated and a detailed level, and it is smoothly integrated with the ERP system. Moreover, ExOpen handles different permissions and which data users should have access to see and edit. However, since the installation of ExOpen lacks the ability to support the required level of detail in the organization, Microsoft Excel is applied in the organization as well. In Microsoft Excel, aggregation of data and forecasts is a bit more complex, but it is right now solved by a function which allows all users to work in the same file, rather than handing Excel files to each other. Despite this, working with Excel files is perceived as a risk since formulas could easily be modified in a faulty way. Hence, only a few people have access to the master file, while the pre-work in the organization is done in a copy of the file instead.

Company G has established routines regarding forecasts throughout the organization; how to conduct forecasts, when to conduct forecasts and expectations. It exists a common notion of the importance of forecasting, and it is deeply rooted in the organizational culture. Besides cultural roots, ambitious forecasting is tightly connected with and motivated by Company G's emphasis on bonuses and reaching targets. Despite large emphasis on forecasting, the organization works with summarizing rather than activity-based forecasting. In addition, data is just sliced by three dimensions: account, profit center and project.

Procurement

Each business unit within the corporation has the authority to decide on their own which tools to use; the corporation is in that sense rather decentralized. During an evaluation of a new budget and forecasting tool in Company G, employees from finance as well as project managers and business developers would be involved. Project managers and business developers would primarily represent users in the organization in order to ensure that the tool is well suited for the operations throughout the organization. A critical aspect is the balance between on how much work that has to be done for input relative to the perceived output; creating good forecasts are a necessity but it cannot consume too much time and energy. Another business unit within the corporation recently procured a tool for forecasting and the tool was also evaluated by Company G. However, it was rejected since it required to much effort to insert data in relation to the output delivered.

Looking at features, the ability to analyze different scenarios and create various scenario analyses is a must have, which in the current solution with Microsoft Excel is limited. It should also be easy to move projects back and forth in time. Overall, acceptance and perceived reliability of the tool within the organization should not be underestimated, and is something ExOpen has achieved to gain. However, when evaluating a new system, it is important that it supports a larger part of the forecasting process than ExOpen does today. In addition, avoiding insertion of the same data at multiple occasions would be desirable in next solution.

Interview Company H

Company H operates within the industry of construction and infrastructure in Sweden. The interviewee holds the position as Director of Controlling and is responsible for the forecasting process. He is primarily involved in the initial phase when guidelines are made and distributed throughout the organization, based upon overall business goals. Company H creates forecasts in order to assure that the business performs in line with these predetermined goals. However, budget as a term is not applied since it is often tied and related to bonuses, which is not used in Company H.

Agresso is the overall financial system implemented in the organization, while the tool Insight supports the actual forecasting process. Insight provides a module specifically developed for budgeting, forecasting and planning and has been in use in Company H since 2013. Staff in the financial department as well as managers in each business unit make up for about 100 employees in total, and they work and insert data in Insight. In order to complement Insight, tools such as Microsoft Excel and calculation tools adapted for this specific industry are utilized. These complementary tools are applied on an operational level and thereby is in use by plenty of employees responsible for conducting and managing projects.

Budgeting process

Company H is divided into three divisions based upon their operations, where time frame and number of projects differ between the divisions. Furthermore, the divisions are divided into business units with yearly turnovers between 100 and 600 MSEK. Forecasts are made per business unit in Insight, while data on a project level is solely conducted in complementary calculation tools and Microsoft Excel. Project expenses are divided into three periods of time: this year, next year, and upcoming years after the coming year.

The forecasting process proceeds from the strategic planning, where strategic goals for each division is formulated on top management level. Furthermore, these strategic goals are converted into financial goals, which work as directions for the organization in the forecasting process. These goals are distributed throughout the organization by e-mail and their intranet. Forecasts are then made on business unit level based upon these goals as well as on existing order stock and an estimation of potential future deals. Forecasting future deals is difficult since available projects on the market varies a lot. Approval of forecasts and feedback is not communicated through Insight; instead, they have physical meetings with presentations and discussions on each organization level.

Insight is able to support Company H's forecasting process without any major problems. Among benefits with this tool, the ability to store outcome data as well as forecasting data is emphasized, which makes it easy to compare how they planned to perform with how they actually perform. In addition, existing order stock is automatically gathered from their financial system Agresso; hence, solely data regarding potential future deals has to be inserted manually. However, a downside with their current solution is the lack of integration between Microsoft Excel/calculation tools and Insight. In the future, it would be beneficial to have some type of integration, but in order for this to become necessary they have to reach a critical mass of employees using the tools.

Procurement

People involved when evaluating a tool for forecasting would be the financial director and the interviewee himself, Director of Controlling, functioning as decision makers. In addition,

representatives from various business units would be involved in order to provide a user perspective. Last time Company H procured a tool for forecasting, it was an extensive process where numerous of different alternatives were evaluated based upon a long and detailed requirement list. User friendliness together with a reliable supplier of the tool is perceived as the most important criteria when evaluating these kinds of tools. User friendliness is a necessity in order to have employees using the tool and it also mitigates required training in the tool. Considering reliability of supplier, a reliable supplier is not necessary equal to a large supplier; for instance, the provider of their financial system is large but perceived as less reliable by the interviewee. However, the small size of the supplier of their current forecasting solution makes them perceived as less reliable by Company H. Other important factors to consider are total costs and the possibility to integrate the tool with other solutions in the organization. A tool for forecasting should preferably also support the strategic planning in general, including business planning and goal management.

Moreover, presenting a demo with cool dashboard and graphs is not impressive. First of all, a demo is just handling a limited number of data, while their organization actually is interested to see how well the system performs when handling a very large amount of data. Second of all, the purpose is to create material to base decisions upon, not necessarily to present nice graphs. Lastly, the interviewee emphasizes the understanding of how the processes should look like in the organization before start browsing for a tool.

Interview Company I

Company I is an established retailer in Sweden and is part of a greater Nordic retail group. The interviewee holds the role as a Group Business Controller and has been a part of the company for the last two years, but has previously held financially-oriented roles within other organizations. At Company I, the interviewee is responsible for the entire business planning process, where budgeting is an essential element, and this entails a responsibility to coordinate and develop business and financial planning.

Currently, Company I applies four different tools to assist in the budgeting work. However, out of the four, Infra is considered to be the main tool for budgeting result elements in combination with Excel. When regarding the users of the tools, operationally-oriented roles that uses the tools include controllers in the different business units within the company. Business unit controllers are considered the main users of the budgeting tools together with their respective business unit managers, and there are also more system-oriented controllers that focus on budgeting templates. However, employees within Group Business Control as well as within the centralized finance function are also system users to some degree. Thus, it is difficult to conclude the exact number of users, but an educated approximation is between 40-50 users.

Budgeting Process

The budgeting work in Company I is based on a greater three-year business planning approach. Operational budget goals that needs to be reached are broken down in a quite complex top-down approach, and are initially based on the company's strategic goals for each year, which in turn are based on the 3-year business planning. Thus, operational goals are established downwards in the organization and it then becomes the task for each operational unit, for instance each cost center, to meet the established goals. The operational units make their budgets based on templates created on a group level; the templates follow a structure that allows for follow-ups in accordance to budget goals and is thus based on the strategic goals of the company. Operationally, each cost center then downloads their respective budget template to Microsoft Excel sheets where the actual budgeting is conducted. Budgeting is done on an account level, and when the budgeting work is completed, the Microsoft Excel sheets are saved to a shared location in an automated process using macros. From this shared location, Infra then reads the data from Microsoft Excel sheets according to the budget templates and thus, all budgets are aggregated and this is done on a regional as well as on a store level. Thereafter, it becomes the responsibility of Group Business Control to assess and confirm the budgets. Budget confirmation is done when budgets are reported into Infra as well as through continuous discussions with controllers within the different cost centers.

The main advantage with Infra is its flexibility. The tool gives users the option to download budget templates to either Microsoft Excel or to a web-based format that can be opened in a web browser. Moreover, since budgeting is done per cost center, individual budgets can be locked if deemed necessary and communication functionality, in terms comments within budget templates, is appreciated. Lastly, Infra's ease of use and the fact that employees within the company are used to the system is another positive that cannot be disregarded. However, one big disadvantage is the system's dependence on individuals to administer and manage the system. The company currently relies on specific consultants as well as a few individuals within the company to understand the logics of the system, and this becomes a problem if any of these individuals are not present. Furthermore, Infra is not considered to be a great system for budget progress evaluations; this may be its greatest weakness. No explicit functionality is currently presented to assess progress in terms of which cost centers that have completed their budgets.

Budget progress is instead assessed in a qualitative manner through discussions and meetings using Microsoft Excel and PowerPoint files. This is the primary way of communication in the budgeting process and may result in difficulties to deliver the budgets according to deadlines, since keeping up with a large amount of presentation files and documents is difficult. In a perfect world, the system should provide an automated way to evaluate progress by visualization in order to take action, if necessary, in a proactive manner.

Procurement

As previously mentioned, Infra is the primary system that is currently used to assist in the budgeting work. The system has more or less been used for years within the company and is considered a traditional approach to planning using budgets. In the long run, there is an ambition to move towards a less inflexible and more proactive way of planning by applying forecasting. Thus, the intention is for planning to become more dynamic through rolling forecasts and an application of relevant KPIs, and rolling forecasts in combination with KPIs would most probably become important aspects to evaluate in future assessments of budget tools. However, the movement towards this new dynamic approach is challenged primarily by the different business units, due to the comfort of having established ways of working.

In a hypothetical future scenario where Company I would assess a new budget tool, representatives from both finance and IT should be included in the evaluation process; for instance, this includes the CFO, the Group Business Control Director and the CTO or other IT representatives with system knowledge. In regards to the actual assessment, the tool must be able to conform to the major size and complex organizational structure of the company due to a unique ownership structure. Moreover, the tool is assessed from a multitude of aspects from usability to vendor capability; however, emphasis should be on the value that the tool actually provides in practice. The tool should help to ease the budgeting work as budgeting is currently viewed as taking too much time and effort in relation to the value it brings.

Interview Company J

Company J operates within the construction industry in Sweden and the interviewee holds the position as CFO for one of the subsidiaries. His responsibility covers support activities, which includes functions such as finance, human resources and administration. As CFO, he is also responsible to manage and develop the budgeting process in collaboration with the CEO. However, he is not primarily involved in construction and project finance since this requires knowledge in construction, while his background lies within banking and corporate finance. Construction and project finance is managed by business unit managers together with the CEO.

In order to manage the finance, two types of IT systems are utilized: one overall finance system and one system for construction and project finance. Suppliers of overall finance system varies in the corporation and some subsidiaries apply Vitec 3L while others apply Hogia. Considering the tool for construction and project finance, it is referred to as Byggsamordnaren and was implemented in 2010. The budgeting process is conducted in Byggsamordnaren as well as forecasts per project. 45 out of 50 white collar workers, including, for instance, calculators, purchasers and site managers, are working hands on in in the tool. Besides these mentioned workers, all people involved in projects are also to some extent working in Byggsamordnaren by inserting data.

Budgeting Process

Company J, and its founder, does not emphasize financial goals in order to manage the company; instead, the focus is on soft values such as being the best employer in the industry. This implies that there are no financial targets set by top management to guide the budget process. Hence, Company J's budgeting process starts from an operational level followed by aggregations throughout the organization up to the management level. On operational levels, site managers are responsible to come up with a consolidated budget for their projects, which is done in discussion with their business unit managers. Site managers' challenges concerns the balance between how detailed to be in their budget work and the time allocated to do the budget work. Considering the fact that one site manager could be responsible for 900 projects during a year, it is obvious that balancing detail level and effort in terms of time when budgeting is critical.

Site managers often collaborate with their respective business unit manager to come up with a realistic budget, and they primarily proceed from last year's figures. When all site managers within one business unit are done with their budget, it is time for the business unit manager to present and discuss this as a consolidated budget with the CEO. In these discussions, external factors such as market growth are included in order to confirm the budget on business unit level.

Besides budgeting, forecasting is also an important part to guide decisions in Company J and they are conducted every quarter. The interviewee emphasizes the importance of accuracy in their budgets and forecasts since they manage large and complex projects with high capital turnover. Calculation tools are thereby applied in the beginning of projects to achieve the desirable accuracy, where calculations are made from recipes based upon type of project. The next step in the process involves the output of the calculation tool, referred to as a product calculation, which is inserted into Byggsamordnaren.

Numerous of companies within the construction industry are using Byggsamordnaren to coordinate their project finance and budget process. It is a simple tool, similar to an advanced Excel template, where all information from the finance system as well as the prices of suppliers

and working hours of employees are consolidated into one tool. Byggsamordnaren also allows to evaluate the progress over the year since data in terms of outcome is continuously extracted from the finance system in order to compare with budget. Other valuable factors with Byggsamordnaren is its flexibility, which is on the same level as Excel, and its smooth support of handle user accesses in the tool. The supplier of Byggsamordnaren is small and possess a great amount of technical knowledge; hence, Company J receives the help it needs quickly, which of course is valuable. However, due to problems of allowing import of data into their finance system, they have problems with the integration between the finance system and Byggsamordnaren. Many companies in the industry have the same problem and the market fails to some extent to offer a general solution for finance planning adapted to the construction industry. The best general solution in the industry is thereby based upon in-house developed tools specifically adapted for that specific organization.

Construction companies are organized like they were 30 years ago while requirements from administrative authorities are increasing. This implies a big challenge for construction companies since site managers have to allocate much more of their time to administrative tasks, rather than participate in the field. It is then very important that all data from project workers related to one project are easily collected and consolidated into one tool. Hence, the tool utilized has to be user friendly with few options, since project workers should spend as much time as possible on their main tasks and using the system should not require knowledge in finance.

Procurement
The CEO together with the interviewee are in charge of evaluating new tools. In addition, a focus group, consisting of two site managers, one accounting assistant, one labor unit representative and the interviewee himself, is responsible to evaluate and develop Byggsamordnaren continuously. Company J chose Byggsamordnaren primarily because of the CEO's previous employer, which also applied Byggsamordnaren in their operations. Furthermore, Byggsamordnaren is established and accepted in the organization. A potentially new tool has to offer some major benefits in order to be considered, since they are satisfied with their current solution in terms of Byggsamordnaren.

Interview Company K

Company K is a Swedish company that provides media services and can be said to have two large sub-businesses: one that is focused on services towards individual consumers and one that is focused on business services. The interviewee has the role of a Business Control Director and reports the company's CFO. In generic terms, the interviewee is completely responsible for the budgeting process. This entails planning, initiation, continuous progress evaluation and having the discussions needed both upwards and downwards in the organization in order to reach the results needed.

In regards to systems and tools in place, Agresso is used as an ERP system. No actual budgeting is conducted in the system, but it is regarded as a necessary system to have for the budgeting to be conducted. When it comes to actual budgeting tools, Company K recently switched from Cognos Planning to BI360, a tool described to be very similar to Microsoft Excel. As of right now, even though the tool provides functionality for Business Intelligence, the company mainly uses it as a tool to export data in different ways to Microsoft Excel; thus, BI360 is viewed as means to create different pivot tables in Microsoft Excel. This implies that the company also complements the budgeting work with Microsoft Excel, which is the preferred way of working due to its flexibility. Microsoft Excel is seen as an inevitable tool to use.

Since BI360 was implemented within the last year, it is more or less only controllers that use the tool. Since all controllers are centralized under the finance function, this means that the usage of the tool is limited to the finance function. However, the intention within Company K is to roll out the tool to the operational areas of the company and, for instance, enable business area managers, product managers and others with a result responsibility to use the system. If that was the case, 80 to 100 employees, including the controllers, would have access to the tool.

Budgeting Process

The budgeting process in Company K is based on the company's three-year business plan, which is updated once every year before the summer vacation period starts. The business plan guides how the business should perform as an entity and thus affects the budget goals. Thereafter, a time plan with relevant deadlines for budgeting is created and then verified by the CEO and CFO, before being sent out to the relevant areas in the organization. The actual budgeting is then conducted during the fall, where controllers are considered to have significant degrees of freedom for the work and discuss it within their respective business areas. The plan is to finalize the budget before the end of the year in order to close the books for the calendar year. In the upcoming year, the budget is then used as a means of forecasting and is updated once in the spring and once after the summer to see how progress compares to the budget that was setup in the end of the year prior.

The intention is to work using a bottom-up approach to budgeting since the actual knowledge lies in the operational areas of the company. In practice however, it is considered to be more of a mix between a bottom-up and a top-down approach. The company applies a bottom-up perspective in the sense that they are initially trying to collect insights from an operational standpoint. However, in order to ensure that this does not take too much time, guidelines are sent from an executive level; this is also done to ensure that the operational budgeting is conducted in a realistic manner from a group perspective.

Budgeting is conducted in a detailed manner, considering the line of business with a subscription services. Thus, the business is more or less volume-driven and budgeting is done

on an aggregated service bundle level. The challenge for Company K is to structure customer data and understand which services each are subscribed to, since there are hundreds of thousands of unique customers. Therefore, BI360 is valuable in the budgeting process since it is able to manage the customer data and structure it automatically according to certain dimensions, such as customers and services, in order to improve ways to budgeting. With knowledge about number of subscriptions, budgeting becomes easier since subscriptions are rigid in terms of contracts.

As of currently, BI360 is primarily used as an input tool. The calculations are still done in Microsoft Excel before being transferred to BI360, but the intention is to use more of BI360's functionality. However, the speed of this transition is dependent on balancing the value of moving functionality to BI360 with the cost of doing so, in comparison to how the company is currently being able to complete tasks in Microsoft Excel. Furthermore, Company K intends to use more communication functionality in BI360 in the future; for instance, by allowing for executive guidelines to be presented and applied in the tool. Currently however, communication is only done through discussions and meetings. Acceptances of budgets within business areas are also done through discussions between controllers and business unit managers from the bottom and upwards without any formalized acceptances or signings.

Procurement

When it comes to system and vendor selection, Company K considers itself to be fairly diligent and thorough as the selection of both hardware and software are essential to provide the media services that the company offer. The process to procure a new budgeting system was started in the end of 2015. At that point, Company K started with an initial market screening by meeting with a number of potential vendors and to clarify what the company was looking for. This was followed by demos, where the vendors had the opportunity to demonstrate how their solutions met the requirements of Company K. With this in mind, Company K also compared the costs of the solution, both in terms of running costs but also methods of payment, as well as the status of the different vendors since Company K is looking to become an important client to ensure service.

Thereafter, an overall assessment was conducted and resulted in a selection of two possible solutions and vendors. This was followed by more a formal request for proposal (RFP) process where technical details about solution and implementation were outlined. As previously mentioned, the selection process resulted in the choice of BI360.

Interview Company L

Company L extracts and process metals in their mines and smelting plants. The interviewee is Director of Group Business Control, which is a unit responsible for monitoring and evaluating business results in relation to budget and predefined targets. Company L is a rather decentralized corporation where Group Business Control is in charge of the overall budget process in the corporation. On a corporate level, the tool AARO is utilized for financial and operational data including the consolidation of budget data. AARO could also be utilized in the subsidiaries when conducting their budgets, but since the corporation is decentralized it is up to each subsidiary to decide which tools to use. Hence, a lot of the budget work in various subsidiaries are made and consolidated in Excel, before it is reported on corporate level using AARO. In addition, some subsidiaries use local consolidation systems before reporting in AARO.

Budgeting Process

During the spring, Company L formulates a strategic plan including overall goals for their business. Proceeding from the strategic plan, the budget process is initialized and runs until October. It is an extensive process involving a great number of employees in the organization during a couple of months every year. The budget includes a one year detailed plan and a less detailed plan for a longer time frame. Company L's detailed budget plan is dimensioned per month while the less detailed plan solely contains data per year.

Management on a corporate level specifies what is expected to be reported into AARO. How the budget then is created and consolidated on operational level is decided locally in each subsidiary. Furthermore, Company L is divided into two divisions, Mines and Smelters, and they are responsible to compile aggregated budgets before reporting to management on a corporate level. Communication regarding the budget process is conducted through meetings between CEO and managers for each subsidiary. With time, Company L has acquired numerous companies with different IT systems and tools which is why the way of working differs significantly on an operational level. With focus on a corporate level, it is argued that AARO is not designed for budget work but that it works fine anyway; AARO is not flexible, but it is stable and reliable.

Procurement

Company L is today not looking at other budget tools to apply along with AARO in the budget process, but they browse for analytical tools to integrate with AARO. If Company L in the future would evaluate a tool for budgeting and planning, the group business control would be involved as well as the accounting manager. A reference group representing the users in the organization would be included as well.

Interview Company M

Company M is a construction company that develops and manages commercial properties in several European countries. It is one out of thirteen business units in a larger construction group and the interviewee holds the role as a Business Controlling Director. This role implies that he is heavily involved in the budgeting process and is active from an aggregated project level in respective geographic region, for instance within each country, up towards budget consolidation on a group level. Moreover, the interviewee is in parts involved in the development work of budget and planning tools.

When it comes to actual tools used for budgeting, Company M previously used ExOpen in combination with a large amount of Microsoft Excel usage. The usage of ExOpen was inspired by another business unit's way of working but the company has since switched from ExOpen to an internally developed system. The reasoning for the switch is referred to organizational growth in size as well as an increased geographical span across a multitude of countries, in combination with longer project-based work from planning and procurement to exit; this required a better way of managing project and organizational data, which was difficult to do with ExOpen and Excel.

The internally developed system is based on the .NET Framework and while it is in use, it is still continuously being developed. Therefore, not all parts of the system are in full use currently but the intention is for all project-related data from procurement to exit, which is used as input for budgeting, to be handled and managed in the system. Furthermore, the implementation of the system is intended to remove the need for Microsoft Excel. The wish is for employees on lower levels of the organization to take part in the budget work and without Microsoft Excel, employees are not required to understand as much financial information and formulas. However, as of now, the usage of the internally developed system is limited to the finance function while project-based operating employees still uses Microsoft Excel. The company intends to roll out the new system completely by the end of 2017.

Budgeting Process

Company M applies a bottom-up approach to budgeting and has resulted in a heavily decentralized budgeting work. The reasoning for the bottom-up approach is said to be that the real knowledge about the business lies in the operational levels of the company rather than on a group level. After business planning on a group level, with resulting group goals to be achieved, it then becomes the responsibility of the operational units to confirm the business is able to operationally reach the goals. Thus, the budgeting process starts on an operational level and in the different projects. Respective project leader is responsible for concluding details about both revenue and costs in a project forecast. On this operational level, budgeting is conducted according to resource codes in order to determine which costs posts that may be activated and billed. The forecast is then discussed with controllers and the local management team in order to gain a clearer idea about the aggregated revenue and cost levels on a regional level. After this discussion has been concluded with finalized project forecasts, this aggregated view is then communicated once again upwards and this time to a country level, where for instance the CFO is involved in the discussions. Lastly, the budgeting work is once again aggregated and discussed with the business unit directors on a group level. In the discussions on the different levels within the company and the group, the system acts as a support system with numbers and details, if necessary, to confirm certain conclusions. Thus, the system acts as a basis for which the budget reports that are presented are based on.

Since the decentralized approach results in a major effort in aggregating budgets, the system plays an essential role in the budgeting process. This was prominent before the introduction of the new system, where a major number of Microsoft Excel sheets had to be sent back and forth in order to communicated and consolidated. Furthermore, when consolidations had been made but adjustments where needed, it became difficult and time-consuming to make the necessary changes and was especially difficult due to forecasting being conducted every month for a five-year period. This extended timeframe for forecasting meant that changes to the forecasts were imminent, and these changes were difficult to make if adjustments were needed on the most operational of levels, in the project forecasts. This inflexibility was one of the major reasons as to why the company decided to develop a new system in order to quickly make necessary changes to the budgeting and forecasting. Moreover, the intention is to improve visualization of progress in the budgeting process; since the budgeting work is conducted from an operational level, it can sometimes be difficult to understand which the next steps are. It is worth noting that this is not referring to understanding specific deadlines, as most employees involved are comfortable and used to the deadlines, but rather referring to operational tasks that needs to get done to move forward. Thus, functionality to gain an overview of the process steps is considered to be of value if it could be implemented in the system, but as of right now, progress in the budgeting process is only assessed and communicated through discussions externally to the system.

Procurement

When Company M decided to switch from ExOpen to an internally developed system a couple of years back, the company had already invested in QlikView as a BI solution. Therefore, the company intended for a new system to work well with QlikView to still be able to use make use of the existing solution and not spend too much more money. Furthermore, Company M acknowledged that their business was very complex and figured that it would be difficult and take a major effort for an existing tool on the market to adapt to their operations. For these reasons, Company M decided to develop a system on their own. In hindsight, this line of reasoning may be discussed as the current system is yet to be fully implemented and deployed. However, the process of developing an own system has resulted in a clearer idea of specifications needed if the Company would decide to look for a market alternative.

Besides the aspect of costs, one essential factor in the choice and development of a budget tool is considered to be user friendliness. The tool should be as easy as possible to use and this is not only in terms of being simple and intuitive to navigate using the software, but it should also be technically intuitive and respond quickly to commands, as users becomes irritated if actions take too long. Thus, in the ongoing development of Company M's budget tool, user friendliness has the greatest emphasis. Moreover, a challenge worth mentioning with the success of these kinds of budget tools and systems is to test it properly. In many instances, evaluation of systems is done in a very intricate and detailed manner, but the actual process to implement them are done too simplistically.

As a conclusion, the interviewee believes that there is great potential for vendors of these kinds of budget tools and systems to develop flexible systems that can satisfy clients. Even though he has worked with budgeting his whole career, he has yet to find a system or tool that has been considered fantastic or even satisfactory in general terms. There is always some aspect that is of annoyance and that is most likely associated with the user experience and a lacking user friendliness. Flexibility and the ability to shape the system according to organization is generally not a problem, even if it may take more or less of an effort. Thus, the interviewee sees communication, as a relation between the vendor and client, as essential in order to not only

shape the functionality according to the needs of the clients, but also shape the user experience accordingly.

Interview Company N

Company N operates within the transportation industry and the interviewees hold positions as chief controller respectively controller. As chief controller, you are involved in the budget process from a strategic perspective, working with the business plan and the integration between the business and the budget process. The controller is more involved in the practical budget work and also functions as a super user in their budgeting module in CGI Raindance. As super user is the controller able to administrate and develop the module, with some support by consultants. In total, there is about 50 employees involved in the budget process in the organization, but solely the ten controllers are working hands on in CGI Raindance. In the remaining part of the organization, including about 40 managers, are Microsoft Excel utilized to do the budget work.

Budgeting process

Company N's budget process is initialized by management communicating business targets throughout the organization. Based upon these targets begins business unit managers to plan their business and build a budget in Microsoft Excel. These budgets are made in Excel templates provided by controllers, and each business unit is tied to a responsible controller. Consolidation within each business unit is made in Excel sheets and then handed to the responsible controller, who screens the data and inserts it into the budget module in CGI Raindance. This module provides an integration with Excel which makes it smoother to extract and import Excel sheets. However, a potential improvement in the process would be avoiding Excel sheets and let the managers in the organization work hands on in CGI Raindance as well. Changes like these are evaluated continuously since it would induce a more efficient process, without having to manage Excel sheets and import/export them to CGI Raindance. It would also result in higher level of control, since editing in Excel can easily go wrong. CGI Raindance is very flexible and thereby also perceived as big and rather difficult to navigate in, which is why it could be problematic to let the organization work hands on in the tool. Involving the organization would require a tool which is adapted to the business, so it is easy to understand what to insert and where. The tool should not require any greater experience or interest of working with finance, it is a necessity to find a balance between flexibility and how advanced the system is perceived as.

High detail level is emphasized in the budget process of Company N, where costs can be traced down to specific activities. CGI Raindance supports this detail level well since it is e.g. possible to connect accounts to activities and it is also possible to create scenario analyses in order to see consequences if details are modified. Besides the budget work are Company N working with forecasting four times a year, which is also supported by their current solution. As a way to facilitate a good budget and forecasting process does Company L work with indexes based upon last year's result. The tricky thing is to reflect the business in the tool and support all details desired, often is the reality more complex than the system can manage.

Communication regarding the budget process is conducted through meetings where business unit managers gets the opportunity to present the business unit's plan for management, and relate it to financial data in the budget. Though, focus on these meetings are on planned activities rather than on pure financial data. Guidelines from managers regarding the budget process is communicated through documents distributed by e-mail, but this information is something that Company N intend to communicate through the planning tool in the future.

Procurement

Ability to adapt the tool to the business processes is an important criterion when evaluating budget and planning tools. It is also important that these adaptations can be done by administrators in the organization, without the constant need of consultants. Possibility to integrate the tool with existing solutions is a significant factor as well to evaluate. A comfortable way to go, and often the most inexpensive, is to contact existing suppliers of the firm and see what they can offer. This was the case in Company N since CGI Raindance already were implemented for other purposes in the organization. At last, it would be very important to consider user friendliness, which would induce that a larger part of the organization can use the tool. During this evaluation process would controllers be involved to represent the users, while IT is included to ensure a fit to the existing IT architecture.

Interview Company O

Company O is a technical services provider within the transportation industry on the Nordic market and currently has over 1000 employees. The business is in general contract-based and is separated into 7 business areas based on the structure of the contracts with clients. The interviewee is a controller for all support functions within the company and has an overall responsibility for the coordination of the budgeting process on a company level. This responsibility includes planning, preparation work and reporting for the different functions.

In regards to the operational budgeting, Company O uses different software and tools provided by Microsoft. For input and aggregation, the company essentially uses Microsoft Excel which is complemented with different input forms through Microsoft InfoPath. Data is stored in a larger ERP system from Infor and the company also has old reports as reference which are generated through a data-layer and displayed using Microsoft Excel's PowerPivot add-on. The users of these tools are everyone in the company with a result responsibility in terms of either revenues or costs. Therefore, the users of the tools are employees responsible for some type of profit center on the most operational of levels up to business area managers. In addition to these, employees within the centralized controlling function also make use of the tools, while executives use them to a limited extent.

Budgeting Process

Company O applies a bottom-up approach to their budgeting where the work starts from an operational standpoint. The reason is that the operational areas of the company differ so much, for instance in terms of numbers of contracts or clients, the length of the contracts etc., that the operational areas are the only ones who can be make a sufficient forecast. The budgeting begins with the service and contract managers constructing their sub-budgets within each business area; sub-budgets are constructed for each client contract, in terms of both revenues and costs, and indirect costs within each business area. Thereafter, these are discussed with the relevant business area managers and revised in iterations, based on guidelines from executives, before being aggregated for each business area; the business area manager has the profit responsibility and to follow up on the forecasting on a monthly basis. Thereafter, all business areas aggregate their budgets into a total company budget which is then presented to the CFO and CEO.

This operationally-oriented way of budgeting entail both positives and negatives. The positive is largely related to a realistic construction of the budget and the fact that the different business areas are able to pursue the budgeting work independently from each other. The budgeting is also fairly detailed which may take time to construct, but is very important for analysis and making improvements to the business. Furthermore, the way of budgeting is very much accepted in the organization and works well in relation to the organizational structure and Company O's line of business; specifically, designed input forms is an example of how the company has adapted their budgeting to the needs of the different business areas. Thus, budgeting is done in a way which is understood by organization and is also accepted by the executives.

However, while the budgeting is able to be conducted by the business areas independently from each other, it must be noted that the business areas may affect each other due to conflicting client contracts and this is not supported by the current way of budgeting in the Microsoft-based environment. Furthermore, since budgeting is aggregated through acceptances on a number of organizational levels, communication becomes an important aspect to consider. Thus, it is worth noting that there is currently no support for communication or acceptances in the tools

applied in the budgeting process since it is conducted aside from the tools, and a general overview of the process and final results are difficult to see. In addition, all assumptions which are needed to make forecasts are not visualized or presented in the tools which creates a need for an additional level of effort aside to keep track of the assumptions.

Moreover, the operational approach also means that it requires tools that can quickly adjust to revisions of the budgeting. As of right now, any changes to the budgets require a significant amount of effort to revise since the company has to make those changes on an operational level before aggregating it all back again. This also means that the work is relatively slow, especially since changes does not update automatically.

Procurement

There are multiple reasons as to why Company O has not moved away from the Microsoft Excel-based way of budgeting. The standard version of the company's current ERP system has limited the management of the budgeting process, especially in regards to Company O's complex organization and line of business. Furthermore, an investment into a new system would require significant amount of capital and at the current stage, it would be difficult to incentivize such an investment into systems for supporting functions of the business; this is due to Microsoft Excel being viewed as "good enough" as well as a less pleasing trend of business results over the last few years.

In a situation where budgeting tools would be considered, the main controllers responsible for the budgeting in the company together with the CFO would be involved. If the tools would be of significant size in terms of investment, the company's internal investment committee in conjunction with the CEO would also have a say. However, an evaluation from the user perspective is emphasized. Since the work with forecasting is generally done twice each year with a large amount of involvement of the operations side of the business, the forecasting is conducted by employees which main capabilities are not within finance; thus, user friendliness becomes an important factor to consider. Furthermore, the complex organizational structure and line of business requires a degree of flexibility and adaptiveness in the tool. As for costs and vendor-specific factors, these become secondary. Total costs, including operational costs or running costs of the system, will however be of importance in the early stages of the evaluation when the system has yet to be tested and evaluated based on its usability.

Interview Company P

Company P manufactures and sells industrial aluminum solutions to countries all over the world, but primarily in Europe. The interviewee operates as CFO and one of his main responsibilities regards thereby the budget process and the delivery of a complete budget to the parent company. Company P's manufacturing division, which is located in Sweden, uses Microsoft Excel to make their budget. Salespeople on the other hand, which are distributed worldwide, create their sales budgets directly in Company P's CRM system Salesforce, even if this system not primarily is suited for budget work.

Budgeting Process

Company P's budget work is based upon their business plan covering how the company plans to operate their businesses in the upcoming three years. This plan also includes financial goals in terms of profit, which the budget process proceeds from in order to create guidelines for the organization. In order for the manufacturing division to know what volumes to produce, the budgeting process starts from the sales side with every single sales person doing their sales budget. Sales budgets from all salespeople are made and consolidated, as previously mentioned, through the CRM system Salesforce. Sales data are inserted per customer (country code) and per product area, furthermore is the consolidation done per product area.

After sales budgets have been made and consolidated are sales volumes distributed over the different production plants and further on also on different production units, which can be a complex and time consuming process. However, when sales volumes and profit targets have been stated, it is clear what every production unit expects to perform. Targets and guidelines for the production is communicated through workshops involving production managers, sales managers and controllers. Proceeding from this is every production manager responsible to deliver budgets for personnel and other costs for their specific plant. The process of creating budgets for each plant is managed in Microsoft Excel, which is not perceived as optimal. Plenty of extra work in terms of sending excel files back and forth is done today. Manage 100 cost centers in Microsoft Excel with input made manually requires a great piece of effort, it also restricts which people that actually could work with the budget process. The interviewee would gladly see a tool supporting this process in Company P in a nearly future.

Procurement

When evaluating a tool for budgeting would two main criteria be taken into consideration. A smoothly integration with the ERP is the first criteria, it is really important that the tool fits in with the existing IT architecture. A user friendly and simple interface is the second and most important criteria, since the tool has to be manageable for employees in production without any greater experience or interest of working with finance. The interviewee has been involved in the process of moving from Microsoft Excel to a budget tool in a former work place, and he would absolutely promote to do it in Company P as well, since it induces a lot of benefits and a smoother process. However, a decision to procure a tool like this has to be made on corporation level and is not something Company P can control by themselves. In a decision like this would the IT department be very important to ensure that the tool fits with the overall IT architecture.

Interview Company Q

Company Q is a retailer that is concentrated on the Swedish market with several hundred stores all over the country. The interviewee holds the position as a Senior Business Controller and his primary responsibility is focused on sales. In regards to budgeting, he is responsible for the entire sales budgeting, both on a company level but also for individual stores, and he has taken part in the budgeting process development on a store level. Since Company Q is a governmentally owned, is differs from many other companies since it is not profit-maximizing; the company does not influence demand and is instead only meeting existing demand. Thus, the only aspect that is in the company's control to affect profit is costs.

The company only uses Mercur as a system to support the budgeting process and has been the system of choice for at least the last decade; the system is common in Swedish governmental organizations and is owned and developed in Sweden. The system is installed in every store in order for the store manager to follow up on sales and costs on a daily basis. Furthermore, around 100 employees in the head office, such as controllers, have access to the system but they are not as frequent users as the store managers; these employees are at most using the system on a monthly basis but most are only using it during budgeting and forecasting periods.

Budgeting Process

Budgeting is conducted once per year during the fall in Company Q. It is based on a larger business planning processes which is in qualitative terms describing strategic initiatives and activities related to those initiatives. The intention is for the quantitative budget planning to be conducted in parallel with the business planning, but budgeting is usually done a few steps behind the business planning. During the budgeting process, Mercur is open to everyone with a budget responsibility, which means that around 200 employees including controllers and store managers are working in the tool during this period. The budgeting is initiated with budget prerequisites or guidelines sent by the executives approximately two weeks before the start of the operational budgeting. While this is communicated outside of Mercur, the system does provide other data, such as last year's budget, the current year's outcome, the moving 12-month average etc., which can be used as reference.

Operationally, sales figures are budgeted centrally from Company Q's head office. The reasoning is related to the fact that the company is governmental and not profit-maximizing, which means that store managers do not need to be incentivized with increasing sales. Sales are budgeted in an aggregated form per product group rather than per SKU since that would become too complex, and this way of working is considered to be sufficient since sales is relatively predictable in this line of business; the company does not work with any promotions or realizations and demand is steady across periods of time. However, costs are budgeted in a more detailed manner from the bottom in the organization and upwards; Mercur helps to aggregate costs on a store level per account up towards a regional level and lastly ending with company numbers.

The budgeting process is considered to be more than sufficiently pleasing. This may be a result of the relatively simple line of business that Company Q conducts and the market position that the company is in. The simplicity in the business operations also means that the budgeting process is simple to follow and there is no need for explicit budgeting process follow-up functionality in Mercur; the functionality does however exist as sub-budgets can be locked when completed and regional managers have the ability to lock budgets for individual stores to see which have completed their budgeting tasks. Moreover, the company is said to not have had

the need to customize the standardized Mercur solution too much during the procurement and implementation to fit the organization. That being said, continuous improvements are always on the agenda and while the company tries to make budgeting user friendly, there is a need to allow store managers to think on their own and come up with own initiatives to budgeting, rather than just enter specified data according to templates created at the head office.

Procurement
When a new tool is evaluated, employees from finance need to make an initial briefing regarding the need and benefits of a new system. After this has been concluded, IT is involved since they are actually involved in running all systems within the company. This leads to a more formal process of establishing needs by collecting feedback from users within the organization before the company looks towards the market for vendors and systems. Thereafter, a specific project group to handle the procurement is set up with a budget for the project, and this budget will act as an initial filter of the different vendors and systems to be evaluated. Lastly, a steering committee with finance executives has a large say in the procurement and all in all, this means that the procurement process is quite complex in Company Q

It should be noted that budgeting in itself is not adding value; it is the reasoning and the pedagogical aspect that add value to the planning of the business. Thus, simplicity is emphasized since many employees are not comfortable with financial terms and numbers in general, especially on a store level. The user interface and design in general is considered to be important in this aspect and visualizations in terms of diagrams and graphs are necessary to understand the logics behind the numbers; this helps in gaining an understanding for the value of actually doing the budgeting work. It is however noted that reaching this level of simplicity is difficult and complex in practice since every standardized system needs to be adapted to specific organizations. As of right now, Mercur is considered to be decent in terms of design but there is clear potential for improvement in for instance the layout the system.

Interview Company R

Company R is a large Swedish retail company with approximately 400 stores. Chief of Business Control is the title of the interviewee, but for now he also holds the position as temporary CFO. His unit, business control, is responsible to manage the budgeting process in terms of design, deadlines, tools to use etc. This process involves about 400 managers in the organization, working hands on in their budgeting and forecast module provided by Oracle. About 250 of these managers are store managers, and except the budgeting tool from Oracle are store managers also using Microsoft Excel in their budget work.

Budgeting Process

Besides retail does Company R have two other smaller business areas, but these were not in focus during the interview. The budgeting process is initialized one month after the business plan is presented, which covers how the business will operate in the upcoming three years. During meetings on management level is then targets for the budget formulated, based upon what is stated in the first year of the business plan. Further on are these targets decomposed by sales managers per region. Sales managers, one responsible for north of Sweden and one for south of Sweden, communicate these targets to managers for each region, 14 in total. Then it is up to each of these managers on regional level to deliver a budget in line with these targets. If targets on regional level are further decomposed per store differs from region to region. As previously mentioned, Company R consists of about 400 stores and about 250 store managers, which implies that some store managers are responsible for two or three stores.

Budget in Company R primarily consist of sales revenues and costs of personnel. In order to support store managers in their budget work does the unit for business control hand out templates in Excel sheets. Using these templates can store managers budget their costs of personnel in a correct way in Microsoft Excel, and then copy the output into the Oracle module. Excel sheets are utilized in this case since the module can't support or produce templates like this. These templates are required since store managers just submits budgets once a year, hence it could be tricky to remember what to do.

Communication regarding the budgeting process is conducted during meetings and in documents distributed by e-mail, but the interviewee thinks that having some of the communication in the budgeting tool could be valuable. Moreover, it could be beneficial to be able to lock budgets on a certain level. For example, if a regional manager is supposed to have a meeting with one of the store managers tomorrow at 2 pm regarding the budget, then it would be helpful if the store manager to can edit data until 2 pm, but not after. This could probably be solved in the module they are using today, but it has not been implemented. In addition, following the work flow to see that "13 out of 23 are done" would be valuable as well.

Procurement

Company R's current budget solution in terms of the Oracle module was an obvious choice, since the rest of the IT architecture was based upon Oracle's solutions. Hence, it also implied a low cost since they just had to extend their already existing license agreement. Integrate another tool with their Oracle environment would probably been costlier. However, if evaluating a tool for budgeting would the unit of Business control be in charge. IT would also be a necessity to involve to ensure that the tool would fit with the overall IT architecture and that it also fulfills Company R's IT safety requirements. A reference group representing users of the system, in terms of store managers, would also be involved, but they would have a minor role.

Considering criteria for evaluation would capacity and performance be one of the most important ones. An ability to manage a large number of users in the system at the same time and still deliver a good user experience without delays is very important. Another criterion is simplicity, store managers have to perceive it as simple and easy to understand since they do this type of work once a year. Besides good design from a user perspective, it has to be easy to administrate. It should be easy to insert preloaded values from last year, either by themselves or by using very few consultancy hours.

Interview Company S

Company S is a healthcare group with well over 10000 employees in the Nordics as well as in a few other European countries. Operations are regionally separated by country, and within each country there are a number of different business areas; operations are further branched into more detailed units and ends on a care unit (CU) level, which is where patients are assessed. Interviewee #1 holds the role as the Vice President of Business Control for the group and he has a more general responsibility to oversee and coordinate business controlling across all countries and the business areas within the countries. Interviewee #2 is a Group Controller and describes her role as a mix between a business and a financial controller; she is responsible for financial ratios and for consolidation of data on a group level, which includes data related to budgeting, after all business areas have reported their respective data, and thereafter follow up on the data to ensure cohesiveness.

As for budgeting, all operational units report their numbers to AARO which is used to consolidate data on a group level. On a business area level, BIS by BI Partners is used by business areas in both Sweden and Norway while other geographical regions apply other tools and systems to support the budgeting. BI Partners is a smaller vendor from Gothenburg and BIS offer different modules, including budgeting and business intelligence. The operational budget work is mainly done on a CU level which is where BIS is mostly used by employees with CU managers as well as controllers on a unit level; the controllers are the driving the use of BIS while the CU managers are required to understand the numbers. In addition to BIS, Microsoft Excel supports the controllers' budgeting work. In total, approximately 300 employees are involved in the operational aspects of budgeting.

Budgeting Process

Company S is a heavily decentralized company; of more than 10000 employees, less than 50 are employed at the head office on a group level. The budget is constructed once every year and instructions from a group level regarding strategic insights and frameworks are sent out to the organization in June or July. Then, the actual budgeting on an operational level is conducted during the fall, where the last adjustments of the budgets for every business area is done in the end of November. The aggregated budget on a group level is then accepted by management in the middle of December. In order to follow the budgeting process and make sure that the process follows the time plan, interviewee #1 is in his role as a coordinator on a group level able to see the levels in each business area which are done and with their budgeting work. Every business area is also able to see whether its underlying units have completed their work, but this functionality is not necessarily used by all business areas.

After having received instructions from the group, the different business areas have the responsibility to inspect their respective businesses in order to come up with targets for the budgeting; these targets are then discussed with group management. When targets for each business area has been accepted, the operational budgeting can begin with a bottom-up approach, where all CU make budgets. These are then aggregated upwards through the business area and is revised to that the aggregation falls in line with the target. Aggregating and acceptances on different levels within business units are done using BIS. In the end, each business unit report their budgets to the group's consolidation tool AARO. Furthermore, since Company S is a public company, quarterly reporting is conducted. In conjunction with these, the company does forecasting for the rest of the year and can be viewed as updating the budget.

Due to the fact that BIS needs to be used on a regular basis to follow up on costs, production, productivity etc., a level of user friendliness is required; as of currently, a direct involvement of controllers is needed in order to make everything work properly. Controllers also complement the budgeting work with personal Microsoft Excel sheets which means that the work becomes highly dependent on individuals. Furthermore, the level of detail and number of dimensions applied in the budgeting is highly dependent on the specific business area since operations differ. The fact that BIS is a system built to the specifications of Company S's organization means that the system is highly adapted to the company's way of working and continuous improvements are done together with the vendor.

This flexibility in being able to adapt the tool to the organization is one of the main advantages with BIS in comparison to a more complete and complex solution from one of the larger vendors. Furthermore, in comparison to using Microsoft Excel, BIS is easier to use and everything is stored and structured in one place. This means that everyone has the same prerequisites for doing the budgeting work and no misunderstandings occur, for instance due to non-updated Microsoft Excel sheets. There is also no possibility for individuals to try own fixes within Microsoft Excel sheets by correcting rows, columns, cells etc. However, since everyone works from the same budgeting model, this puts an emphasis on producing a correct model to start with. Otherwise, everyone is affected by the same issue or issues.

Procurement

Since Company S is considered to be highly decentralized, every geographical region controls their own means of budgeting. This means that the tools and systems used to support the budgeting is not controlled by the group; the group only requires that all regions report their data into the group consolidation system AARO. Every geographical region has a steering committee that decides on systems and tools to support administrative work in different aspects. This includes tools for budgeting and to evaluate them, business area controllers, regional controllers as well as the IT director are involved to judge.

Even though each geographical region is free to choose the tools and systems used in the budgeting process, integration with the system environment as a whole needs to be considered. Furthermore, it is essential to focus on the ease of use since the tools are not exclusively used by controllers. In regards to the choice of BIS in Sweden, it was originally used as a visualization tool to make sense of the budget work. With time, the use became more of a standard and was applied in more areas of the work at Company S, including the budgeting process.

Interview Company T

Company T operates within the energy sector and the interviewee holds the position as CFO at the company. He is responsible for the planning process on corporate level, including business planning and financial planning such as the budget process. In 2015 were Hypergene implemented to support the planning process in general, not solely the budget process. However, the interviewee is convinced that Microsoft Excel is utilized as well in the budget work, before inserting values into Hypergene. It is almost impossible, and unnecessary, to eliminate the use of Excel to 100 %.

Budgeting Process

How the budget will turn out is heavily dependent on the first year in the business plan, it would be strange if these two would differ marginally. Actions that could imply differences though would be large unplanned investments or major changes in the price of raw materials. Initially are targets defined based upon the content of the business plan, primarily regarding the cost side, since revenues are hard to influence when delivering energy. The budget functions as a governance tool to create commitment in the organization, it is not an attempt to forecast the future. Managers for each business unit are expected to perform in line with communicated targets, and will thereby manage their unit in order to fulfill these expectations.

Initialization of the budget process is made from management level communicating previous mentioned business targets and what areas to emphasize. Starting from operational level is often problematic since everyone tend to be a bit too optimistic. Hence, it is of importance to not just aggregate number, you have to apply an analytical management perspective. In other terms, an understanding and sense of what is realistic is very important to achieve on all levels in the organization. It is also very important that responsible managers are committed and supports the budget, which is facilitated by them being involved in changes and cuts made.

People involved in the budget process are primarily controllers, regarding things like personnel budgets are business unit managers involved as well. As business unit manager, you specify if each employee will stay or quit, FTE etc., and this is based upon data extracted from the finance system. Managers then submits that data to superior manager in a specified workflow. Communication and feedback between levels are conducted through physical meetings, since it is important to sit down together and get a mutual understanding to facilitate involvement. Indirect costs are not inserted at the same detail level as costs for personnel, these are instead managed by specific frameworks for each business based upon last year's outcome. An ambition is to manage more of the data like the personnel budget is managed, where users insert data for the business related to activities, and this data is then processed by underlying calculations in the system. Data in general is sliced by the dimensions Cost center, Account, Period, Product area, Subsidiary, Counterpart, Project and Facility.

A budget tool is solely a support for the budget process, an organization has to establish reliable and desirable processes first. The tool contributes with historical data and results, but it can't manage the mental activity. However, a budget tool induces time savings since handing Excel sheets back and forth is time consuming. It also implies a greater control to use a budget tool than using Excel, and you got all data at the same place, as well as the opportunity to manage scenario analyses. At last, a budget tool forces the organization to have a clear process, instead of having each business unit doing it their own way. In order to maintain the system, it is important to build system competence within the company, including system users with ability to administrate the system with support by consultants.

Procurement

Company T evaluated a number of tools before choosing Hypergene in 2015, example of these were TM1 and Anaplan. The company has to obey the law regarding public procurement, hence an important aspect is to keep the process as smooth and inexpensive as possible. Considering this, it was easier to look at suppliers with existing contracts with Company T. Besides reducing cost and the time consumed, it also implies a lower risk. However, suppliers without contracts were also evaluated, but the total cost stays as a determining factor. Involved in Company T to conduct this evaluation were an administrative unit consisting of people from IT and representatives from the organization, as well as a chief controller and a reference group of controllers in the organization. Involving people from the organization, representing users, is important to get the tool accepted throughout the organization and to accomplish a successful implementation.

Interview Company U

Company U is a Swedish producer of environmentally friendly industrial goods based on wood and is since a few years back owned by a global conglomerate based in Asia. The company has production units in the north of Sweden and has around 400 employees in total. The interviewee is part of the executive team and holds the title as a CFO. In terms of responsibility, this means that she is the outermost responsible for company finances which includes the budget.

As for budgeting, a selection of tools is used to support different parts of the budgeting. Department managers are responsible to report their respective costs budgets into a system called Insikt while sales figures are budgeted and overseen by sales personnel in the in a system called Haggerty. When it comes to result, balance and liquidity budgeting, the numbers are extracted from Insikt and Haggerty into Microsoft Excel in order for budgeting on a company level to be conducted. Thereafter, the company budgets are then reported to the foreign owners by linking the Microsoft Excel sheets to the group's consolidation system Hyperion. Main users of Microsoft Excel and Hyperion within Company U are personnel from the finance function, e.g. controllers.

Budgeting Process

The fiscal year in Company U starts in April which means that the budget should be handed in and accepted by the end of March each year. The process starts in September where guidelines and a time-plan for the process is delivered by the company executives to the different departments. It is then the department managers' task to operationally assess their respective businesses, in terms of for instance needed expenditures for raw materials and other input in the production; this bottom-up approach is considered to be beneficial since it creates a sense of responsibility and ownership for the work in the different department but it also time-consuming in comparison to a top-down approach. The department budgets are then aggregated for all departments upwards in the organization to shape result, balance and liquidity budgets on a company level. Here, the aggregated numbers are assessed in relation to the guidelines.

After iterations on a company level, a first draft of the budgeting is sent and presented to the foreign owners before Christmas. After input from the owners, further iterations are done in January and February. These iterations are for instance done in relation to additional guidelines sent by the foreign owners, which regard macro factors such as raw material prices on a global scale and currency fluctuations. Finally, a company budget should be accepted by the owners in March before the new fiscal year starts and this means that the total budgeting processes is relatively time-consuming where the major operational budgeting work is done between September and December. A formal budget acceptance is also done on a company level by the Swedish executives in the beginning of the fiscal year.

Since Company U was acquired by the foreign conglomerate, the company has gone back to a more traditional way of budgeting in comparison to many other Swedish businesses which have moved to more dynamic forecasting methods. This traditional way of budgeting also means that the budgeting is conducted on a more detailed level. Previously, the company did the budgeting on a more aggregated level based on previous years and experience, where for instance orders were budgeted as a total but now however, orders are budgeted for every individual client; while this is more time-consuming, it means that the company has better insights into their operations. The company currently has the following sub-budgets: revenue budgets, direct cost budgets, department budgets (indirect costs), budgets for working capital and investment budgets.

As for the tools to support the budgeting process, Insikt is considered to be well-functioning and easy to use for the department managers by being adapted to the company's line of business. While the tool does not provide any functionality for communication, for instance during iterations of the budget work, progress can be followed since budgets can be locked when numbers have been put in; this means that while explicit functionality to follow up on deadlines is not necessarily in place, the company is still able to see when departments have completed their work. As for the use of Microsoft Excel for budgeting on an executive level, the intention is to minimize the use as much as possible; the reason is that the work with Microsoft Excel sheets becomes employee-dependent since the one drafting the sheets are the ones with the most knowledge revolving what data is supposed to and has been inputted.

Procurement

When it comes to the operational budgeting work and choice of budgeting tools on a company level, the foreign owners do not have any requirements or demands that affect Company U; the owners only require Company U to report their numbers in a standardized way into the group consolidation tool. Therefore, in a situation where budgeting systems were to be evaluated, only representatives from Company U would be involved. It would mainly involve individuals from the finance function since they are the main users of the tools and they also have an understanding for the department managers' needs and requirements. As for the involvement of IT, the function needs to ensure a working system environment and is thus required to take part in the evaluation. However, their involvement is secondary to the finance function since factors related to the user side is prioritized.

Moreover, factors related to the vendor of potential systems will affect evaluation. An emphasis will be on the product in terms of what value that is delivered and how it will be delivered. Therefore, the size and reputation of vendors do not have an explicit impact on whether a vendor is chosen, but Company U regards the relationship and the confidence in the vendor to be important; therefore, reference cases and experience do have an impact and these may be a function of vendor size and reputation.

Interview Company V

Company V is a car dealership with multiple locations in the south of Sweden and specializes in a handful of European automotive brands on both the new car market and the used car market. The interviewee is a finance manager at the company and is the one who is the most involved in the operational budgeting work conducted at the company. The company does not make use of any specialized systems or tools for the budgeting as all is conducted in Microsoft Excel through linked templates. These templates are only operated by the interviewee but in the budgeting discussions, between 10-12 employees are involved which besides the interviewee includes operational representatives for each brand the company specializes in.

Budgeting Process

In Company V, the budgeting process takes place between September and December every year and is in general considered to be quite time-consuming. However, it should be noted that the budgeting work in Company V is viewed as a process for reasoning and to create a discussion within the organization; the work creates involvement and generates a degree of responsibility for the work and for instance every brand manager is responsible for his or her respective budgets. Budget meetings are held more or less every week during the budgeting process period where the interviewee uses input from brand managers to shape the budgets.

When it comes to sales, budgeting is conducted in a top-down approach and is initially based on a macroeconomic sales forecast of new and used cars to be sold on a national scale. This forecast is conducted on an executive level and is communicated down to the organization as sales expectations. Thereafter, this is then broken down for a relevant geographical region in which Company V is operating and then for every brand that the company specializes in and the sales figures are lastly distributed to the individual sellers of respective brand. This is structured in the Microsoft Excel sheets which mean that the company is able to make different scenario analyses depending on if assumptions were to differ, for instance regarding new car sales in relation to used car sales.

In regards to costs, budgeting is as opposed to sales budgeting conducted from the bottom and upwards. The costs are based on the established sales budgeting and the associated costs are built from the operational areas on an account level. This means that costs budgeting is considered to be as detailed as it possibly could be and while this gives an ability to dive deep into the numbers, budgeting becomes time-consuming and requires a significant amount of effort. It is difficult to have an overview of all accounts and understand all figures and for some of the less impactful accounts, budgeting is solely based on past years' numbers; all reference data is collected from QlikView and is transferred to Microsoft Excel by copying and pasting the data.

Microsoft Excel is considered to have both pros and cons. In regards to pros, the fact that all Microsoft Excel sheets are linked means that any change that is conducted in the budgeting gives an immediate response in the final result, which is the most important aspect to consider in the budgeting. However, work in Microsoft Excel does require a level of technical and financial competency and limits involvement from the organization.

Procurement

If a new system were to be evaluated, the interviewee would be involved as well as, at least to some extent, representatives from the different automotive brands; since the interviewee is the only one who currently does any of the technical and operational budgeting work with numbers,

he is the one who is primarily interested in a new system. A new system is also said to be interesting since the current way of operating takes too much time in general. However, even though it is considered to be a problem every year when budgeting is conducted, the fact that it only is an issue once each year means that the problem is forgotten and ignored. Furthermore, Company V has outsourced all IT services needed which affects the systems and tools that is used within the company.

The focus needs to be improving and making the budgeting more efficient; current ways of budgeting in Microsoft Excel is time-consuming and requires effort to link everything together. Furthermore, based on the systems that have been on the company's radar in the past, many seems to be very large and complex. If a new system were to be implemented and involve more employees within the organization, the system would have to be simple and easy in order for the budgeting work to be completed; it is doubtful if this is possible and the employees within the organization are generally preferring if the interviewee completes the technical budgeting work based on discussions with the organization. Thus, the budgeting work may be seen as requiring a certain degree of technical competency and experience to be conducted.

Interview Company W

Company W is a retail corporation originating from Sweden, currently having stores in five countries. Director of Control is the title of the interviewee and he is, among other things, responsible for the forecasting process within the company. This includes guiding head controllers in each country and later on present a consolidated forecast to management at corporate level. Historically has this forecasting process been supported by a module in Raindance, since Raindance was the overall finance system in use in Company W. However, they are right now switching their finance system to Microsoft AX and are thereby also leaving the forecasting module. Forecasts in terms of sales are instead managed in Just Enough, which is a tool primarily utilized by controllers and sales managers in Company W. Regarding forecasting of costs is no specific system in use, instead is Microsoft Excel applied. Consolidation of forecasting data on country level to corporate level is managed in Microsoft Excel as well.

Budgeting Process

Company W conducts forecasts four times per year, and have done so since they went from doing budgets to doing forecasts, four years ago. A forecasting process is initialized by director of control at corporate level handing out time schedules and instructions to responsible controller in each country. In the instructions are requirements for the process formulated, concerning how to structure and report data to corporate level. Director of control requires aggregated data for each country, then it is up to each country to decide how to come up with this data. Some countries involve store managers, some don't. Overall is the work conducted in Microsoft Excel, the exception is sales forecasts which are conducted by controllers and sales managers in the tool Just Enough. A delivery from country level to corporate level consists of an excel sheet presenting the forecast in numbers, and a slide deck explaining these numbers with corresponding operational activities. At last, the director of control consolidates forecasts received from each country controller and then presents this consolidated forecast to corporate management.

When Company W were working with budgets, which was done once a year, were all store managers involved to conduct the budget work. This was beneficial in terms of getting a standardized way of working throughout the organization and really involving all stores to evaluate their business. The downside on the other hand was the required effort, which is why most of the countries are not working like this today. Managing like 200 stores implies assisting 200 store managers when they are conducting their budget work, in order to ensure that the data is entered correctly in line with expectations. Not involving all these store managers induces less administration and thereby also a less expensive process. Company W is satisfied with its current process of conducting forecasts, going back to involving all store managers in the corporation is not perceived as desirable. A decentralized organization where countries can decide by themselves to which degree they would like to involve store managers in the forecasting process, as long as they deliver in line with guidelines from the corporation, seems to be the best solution for Company W.

Procurement

Involved when evaluating a system to support the forecasting process would be the director of control together with one of the controllers responsible for a country, to represent users of the system. In addition, IT would be included to ensure things like data security and integration possibilities. User friendliness and flexibility would be the two main criteria to consider when evaluating a tool like this. It is also important that the function of business control can

administer the tool on a daily basis, without involvement of IT, doing basic stuff like managing users, accesses and import data from excel. Involving IT to much in daily operations tend to be time consuming. The supplier of the tool has to be very concerned about data security and be able to conduct a smooth implementation. Offer the support needed as well as having good references is also a necessity in order to be considered as a new vendor. Regarding payment structure would Company W prefer a simple one where it is easy to predict the cost.

Interview Company X

Company X operates within the construction industry in Sweden and is part of a larger corporation with businesses in Sweden, Norway and Denmark. The title of the interviewee is controller and he plays a key role in the budget and forecasting process in Company X. Agresso is the finance system utilized where a specific module called Agresso Planning supports the budget and forecasting process. Besides this module is Microsoft Excel used to a large extent in the budget and forecasting process as well. Controllers on central and regional level work hands on in Agresso Planning, while project managers enter their project data into an Excel sheet with integration to Agresso Planning.

Budgeting Process

Company X's budget and forecasting processes are initialized by management handing out instructions and expectations to each business area and division. Templates are then created and distributed to project managers. Data from Agresso, such as which project belongs to which project manager, last year's forecast, last year's result etc., is automatically imported and included in these templates. Next step consists of project managers inserting data for each project. Due to support for simulations in the excel templates, which are integrated with Agresso Planning, are project managers able to see how their inserted data influences the outcome. Later on, each project manager consolidates his or her data and submits it to a controller on regional level. It is then up to these regional controllers to import this data to the Agresso Planning module. When forecasts from all project managers has been collected within a region, it is time to conduct forecasting meetings involving project managers, regional controllers and the regional manager. The purpose with these meetings is to get a mutual understanding of the region's forecasted results, in order to be prepared when presenting this to the business area manager and later on to the CEO.

Agresso Planning has been developed and adapted to Company X's operations during several years, hence it fits their process very well today. Agresso Planning is a module in Agresso and it is thereby possible to reuse existing project and account structure in the system. The module also allows Company X to relate forecasts to specific activities and orders within projects. It is also possible to work with unlimited numbers of versions in the system. At last, Agresso Planning supports simulations which is a critical function to have in the construction industry.

Procurement

Evaluating a new budget and forecasting tool will not be relevant in Company X as long as they keep their finance system Agresso. However, a critical factor if evaluating a tool would be the support for PoC-reporting, since it is a necessity in the construction industry. Furthermore, would user friendliness be an important aspect to consider, primarily in order to facilitate project managers work with forecasts. Ability to simulate results and manage different versions are two other functionalities which has to be in place as well. At last is price something that has to be considered before a purchase.

Interview Company Y

Company Y operates on the Nordic market as one of the largest players within mobile communications. The interviewee is the head of the Business Control and Analysis department of the company. The department is constituted by 15 employees in total and one of the main responsibilities of the department is to drive the whole budgeting process; this includes data collection as a prerequisite for the budgeting before coordinating and then consolidating budgets within the organization into a finale budget, which is presented to the owners. The department is also responsible for conducting the forecasting work continuously during the year.

When it comes to budgeting tools and systems to support the budgeting and forecasting work, Hyperion is the system that is used to consolidate the organization's budget data into finalized company budgets. However, a system from Oracle also provides support and Microsoft Excel is widely used on an operational within the organization before data is entered into Hyperion. The usage of these tools and systems is mainly within the Business Control and Analysis department since both Hyperion and Oracle are both more or less controller-oriented systems. In addition to Business Control and Analysis department, the Group Reporting department also has access to the systems.

Budgeting Process

The budgeting process in Company Y is initiated in late August or in the beginning of September of each year with guidelines from the owners about the expectations for the coming year; these are usually based on a long-term business plan. Since Business Analysis and Control was a part of creating the business plan, the department is usually aware of the guidelines and what the upcoming budgeting work will lead to. Thereafter, the department presents the current status of the business and how realistic it will be for the business to reach the expectations put forward by the owners. Discussions then follow revolving around strategic initiatives to focus on for the upcoming year which in turn will affect how budgeting will proceed. Based on these discussions, guidelines are created for each area of the business are then communicated down in the organization; the controllers within Business Control and Analysis have responsibility for different business areas and act as the link between executive management and operations, e.g. between the Marketing Director on an executive level and the operational marketing department. Discussions about these guidelines then follow in order to allow the business areas to make inputs to the work.

In this phase of the budgeting process, where operational areas of the company have a say in order to make the budgets realistic, feedback to the budgeting is iteratively collected through meetings where. The actual basis for the budgeting discussions are created by the different business areas using Microsoft Excel sheets; these sheets are in general fairly detailed and budgeting is conducted on an account-level. The reason as to why Microsoft Excel is used on this operational level is referred to its dynamism and wide availability. However, it is recognized that the use of Microsoft Excel may create a dependence on specific individuals who created the sheets, and the fact that operations do not have access to Hyperion means that there is a lesser sense of responsibility for the budgeting work; controllers will step in afterwards to correct and enter the data into Hyperion.

The reason is that controllers will still need to consolidate the different Microsoft Excel sheets done by the business areas before entering in the data into Hyperion, which provide budgets in terms of revenue, costs and investments. These budgets are then updated with assumptions

about upcoming trends and is also adjusted after discussions with the directors of the different business areas; the directors are the ones responsible for following the guidelines created in the earlier phase of the budgeting process. Thereafter, a first draft should be able to be presented to the owners in mid-October and using the feedback from the owners, revisions of the budgets are done and is then finalized in November.

Procurement

In regards to a more operationally-oriented budgeting system to complement Hyperion, other types of systems and supporting tools have been prioritized from an IT perspective. However, it is always considered to be in the interest of the Business Control and Analysis department to refine and improve the way of working when the time is right. Company Y is also used to the process of evaluating systems and tools since they are an essential part of running the operations. In a situation where a new system was to be evaluated, representatives from IT who are responsible for the system environment need to be involved in the decision-making process; Company Y's system environment is considered to be very complex and the integration between different systems is essential for implementation and stable daily operations. Thereafter, input from a user perspective is needed and the Business Analysis and Control, Group Reporting and the CFO need to have their say in regards to the benefits of the actual system.

The new system would need to focus on user friendliness and usability. User friendliness refers to a satisfactory user interface where visualizations help in interpreting and analyzing the budgeting work as opposed to just presenting the work in terms of numbers in a Microsoft Excel-based format. Usability is primarily regarding a system that is more proactive in the budgeting work and both automates and engages a larger part of the organization. For instance, automatic trends based on historic data would be beneficial rather than trying to manually assess these trends, and if the system could be used to input data on a more operational level with instant feedback, the work would become less complex; the current way of sending and collecting Microsoft Excel-sheets, which are then consolidated, is tedious and time-consuming. Thus, since the user perspective only focuses on the product in isolation, vendor-specific factors such as experience and reputation become less relevant.

Appendix C: Client Survey

Table 19 All client answers regarding the ranking of evaluation criteria (1 = most important, 9 = least important)

Client Answer	Total Costs	Implementation Time	Functionality	User Friendliness	Flexibility	Reliability	Vendor Reputation	Technical Capability	Service
#1	3	9	1	2	5	4	6	7	8
#2	4	7	3	1	2	6	8	9	5
#3	5	7	1	3	4	2	9	8	6
#4	2	9	4	1	6	3	7	8	5
#5	6	8	3	1	4	2	5	7	9
#6	2	6	3	1	7	4	9	8	5
#7	5	7	2	1	3	4	9	6	8
#8	3	9	1	2	5	4	8	7	6
#9	5	6	1	3	4	2	9	8	7
#10	3	7	6	1	5	2	9	4	8
#11	6	9	5	4	1	2	7	3	8
#12	2	7	1	4	3	5	9	8	6
#13	6	8	4	1	5	2	9	7	3
#14	3	9	1	2	6	5	4	7	8
#15	8	7	1	2	4	3	9	6	5
#16	8	9	1	2	3	4	7	6	5
#17	2	6	1	4	5	8	3	9	7
#18	3	8	5	1	2	4	9	6	7
#19	6	9	3	2	1	4	5	7	8
#20	8	4	1	2	3	5	6	9	7
#21	2	3	1	4	7	5	9	8	6
#22	7	2	6	3	1	4	9	8	5
Average Importance Score	4,50	7,09	2,50	2,14	3,91	3,82	7,50	7,09	6,45

Table 20 Number of clients who chose the evaluation criteria for each specific rank (Rank 1 = most important, Rank 9 = least important)

Evaluation Criteria	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7	Rank 8	Rank 9
Functionality	11	1	4	2	2	2	0	0	0
User Friendliness	8	7	3	4	0	0	0	0	0
Flexibility	3	2	4	4	5	2	2	0	0
Total Costs	0	5	5	1	3	4	1	3	0
Implementation Time	0	1	1	1	0	3	6	3	7
Reliability	0	6	2	8	4	1	0	1	0
Vendor Reputation	0	0	1	1	2	2	3	2	11
Technical Capability	0	0	1	1	0	4	6	7	3
Service	0	0	1	0	6	4	4	6	1

Table 21 Evaluation Criteria sorted according to Average Importance Score

Importance Ranking	Evaluation Criteria	Average Importance Score
1	User Friendliness	2,14
2	Functionality	2,50
3	Reliability	3,82
4	Flexibility	3,91
5	Total Costs	4,50

6	Service	6,45
7	Implementation Time	7,09
8	Technical Capability	7,09
9	Vendor Reputation	7,50

Appendix D: Prioritization of Gains & Pains

Table 22 Prioritization of Strategic Gains

Strategic Gain	Evaluation Criteria	Importance Ranking	Priority Segment
Process Visualization	User Friendliness	1	High Priority (HP)
Simple to Administrate	User Friendliness	1	
Approving Budgets	Functionality	2	
Aggregation of Data	Functionality	2	
Comprehensive Solution	Functionality	2	
Distribution of Guidelines	Functionality	2	
Rolling Forecasts	Functionality	2	
Report Creation	Functionality	2	
Data Safety	Reliability	3	Medium Priority (MP)
System Integration	Flexibility	4	
Configurable	Flexibility	4	
Cost Structure	Total Costs	5	
Vendor Support	Service	6	Low Priority (LP)
Close Vendor Relationship	Service	6	
Smooth Implementation	Implementation Time	7	
Vendor Competence	Technical Capability	8	
Vendor Reputation	Vendor Reputation	9	
Small Vendors	Reputation	9	

Table 23 Prioritization of Strategic Pains

Strategic Pain	Evaluation Criteria	Importance Ranking	Priority Segment
Lacking Process Overview	User Friendliness	1	High Priority (HP)
Lacking Visualization of Assumptions	User Friendliness	1	
Consolidation of Excel Sheets	Functionality	2	
Lacking Approval Flow Management	Functionality	2	
Detailed Budgeting	Functionality	2	
Individual Dependency	Reliability	3	Medium Priority (MP)
Large Vendors	Reputation	9	Low Priority (LP)

Table 24 Prioritization of Operational Gains

Operational Gain	Evaluation Criteria	Importance Ranking	Priority Segment
User Friendly Interface	User Friendliness	1	High Priority (LP)
Visualization of Data	User Friendliness	1	
Visualization of Next Actions	User Friendliness	1	
Present Reference Data	Functionality	2	
Track Numbers	Functionality	2	
Support for Scenario Analysis	Functionality	2	
Comment Functionality	Functionality	2	

Support Multiple Users	Reliability	3	Medium Priority (MP)
Customized Templates	Flexibility	4	

Table 25 Prioritization of Operational Pains

Operational Pain	*Evaluation Criteria*	*Importance Ranking*	*Priority Segment*
Lacking Intuitiveness	User Friendliness	1	High Priority (HP)
Lacking User Communication	Functionality	2	
Inability to Support Detailed Forecasting	Functionality	2	
Lack of Control	Reliability	3	Medium (MP)
Managing Excel Sheets	Reliability	3	
Lacking Excel Import Functionality	Flexibility	4	