**TAMPEREEN TEKNILLINEN YLIOPISTO
TAMPERE UNIVERSITY OF TECHNOLOGY**

OLLI PIRTTILÄ
A FRAMEWORK FOR IMPROVING CREATED VALUE TO CUS-
TOMERS IN A SOFTWARE AS A SERVICE BUSINESS

Master of Science Thesis

ABSTRACT

OLLI PIRTTILÄ: A framework for improving created value to customers in a software as a service business
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This thesis was carried out as a case study for Granite Partners Ltd, where the researcher is also employed as a Marketing & Account manager. The aim of this research is to identify critical gaps in the subject company's value creation process and to provide a framework for future value creation improvement projects.

The main research questions of this thesis are: 1) How can value creation to customers and its improvement be approached as a process? 2) What are factors specific to Granite that create value to customers? 3) How can a company conduct systematic value creation improvement projects using a process approach framework? The research was conducted as a pragmatic, mixed-method research utilizing an online survey, semi-structured interview, literature review and expert analysis as its main methods. In addition to a literature review, a customer base wide online survey was conducted and four representatives from two customer companies were interviewed. Based on the findings, the research questions were answered.

The online survey provided an overall picture of the current state of customer value creation and customer satisfaction. No major gaps in value creation was found in gap analysis of the online survey, but open ended comments revealed some issues that were further elaborated in the interviews. Customer interviews offered a more detailed picture of issues and concrete improvement areas that were related to four distinct categories: communication, service production, instructions of use and usability & feature improvement. Concrete improvement measures were develpod for each issue and an action plan to implement them. A framework for improving created value to customer was also created based on the theory and empirical results. The final version of the framework offers a systematic way to tackle all future value creation improvement projects at Granite or other companies utilizing the framework. The framework is not company or industry specific, so it can be used for projects in other companies and industries as well.

TIIVISTELMÄ

Tämä diplomityö tehtiin Granite Partners Oy:lle, jossa työn tekijä myös työskentelee markkinointi- ja asiakkuuspäällikkönä. Työn tarkoitus on tunnistaa kriittisiä aukkoja kohdeyrityksen arvonluontiprosesseissa ja tarjota viitekehys tuleville arvon tuotannon parantamiseen pyrkiville projekteille yrityksessä.

Tämän työn päätutkimuskysymykset ovat: 1) Miten arvontuotantoa asiakkaalle ja sen parantamista voidaan käsitellä prosessina? 2) Mitkä ovat Granitelle spesifit tekijät jotka luovat arvoa asiakkaille? 3) Miten yritys voi suorittaa systemaattisia arvonluonnin kehitysprojekteja käyttäen prosessiviitekehystä? Tutkimus suoritettiin pragmaattisena, monimetodisena kvalitatiivisena tutkimuksena joka hyödynsi verkkokyselyä, puolistrukturoitua haastattelua, kirjallisuuskatsausta sekä asiantuntija-analyysiä tutkimusmetodeinaan. Kirjallisuuskatsauksen lisäksi suoritettiin koko asiakaskunnan laajuinen verkkokysely ja neljää asiakkaan edustajaa kahdesta eri asiakasyrityksestä haastateltiin. Löydösten perusteella vastattiin esitettyihin tutkimuskysymyksiin.

Verkkokysely tarjosi yleiskuvan arvonluonnin ja asiakastyytyväisyyden nykytilasta. Vakavia aukkoja arvontuotannossa ei löydetty verkkokyselyssä, mutta avoimet vastaukset tarjosivat kehityskohtia, joita avattiin lisää haastatteluissa. Asiakashaastattelut tarjosivat tarkemman kuvan kehityskohteista sekä konkreettisia kehityskohteita jotka liittyivät neljään kategoriaan: viestintä, palvelutuotanto, käyttöohjeistus sekä käytettävyys ja ominaisuusparannukset. Konkreettiset parannustoimet muodostetiin kullekin kehityskohteelle ja lisäksi laadittiin toteutussuunnitelma toimien täytäntöönpanoon.Teoriaan ja empiirisiin havaintoihin perustuen luotiin viitekehys arvonluonnin kehittämiseen. Lopullinen versio viitekehyksestä tarjoaa systemaattisen tavan lähestyä kaikkia arvonluonnin kehitysprojekteja tulevaisuudessa kohdeyrityksessä tai muissa viitekehystä soveltavissa yrityksissä. Viitekehys ei ole yritys- tai toimialaspesifi, joten sitä voidaan hyödyntää muissa yrityksissä ja toimialoilla.

PREFACE

The process of finishing this thesis has been rocky at times, and the actual timetable of writing and finalizing this thesis has been challenging. However, the process reached its end with the support from key persons, whom I would like to acknowledge here.

I would like to thank Granite Partners Ltd and especially Teppo Kattilakoski and Anssi Väisänen for a great environment that has matured me as an expert of my chosen profession. I also greatly appreciate the flexibility and freedom in the planning and conducting of this thesis, as well as support throughout the process. A great deal of thanks also goes to professor Nina Helander for the support and great advice as well as flexibility through this research process. It has been a delight to finish this thesis in your guidance.

Thanks also to my parents Anneli and Timo for proofreading the thesis and continued support throughout my prolonged university studies. Thanks also to Anna for supporting me mentally through the writing process.

Tampere, 7.8.2016

Olli Pirttilä

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LIST OF SYMBOLS AND ABBREVIATIONS

NPS   Net Promoter Score. A measure of potential growth and customer satisfaction of a company that indicates the willingness of customer to promote a company's product or service to friends or colleagues. Calculated using the answer to question "How likely is it that you would recommend [brand] to a friend or colleague?", using a 0-10 scale. (The Net Promoter Score, 2016)

SaaS   Software As A Service. A software delivery model, that separates the ownership of the software from the user; the supplier of the software owns the software and lets the customer use the software through some client –side method like Internet or an intranet (Laplante et al., 2008)

S-D   Service-dominant logic. Business theory that points out the shift from focus on transactions of goods to a service centered business logic with focus on customer needs and relationships. (Vargo & Lusch, 2004)

1. INTRODUCTION

The subject of this thesis is to create a systematic framework for improving created value to customers in a Software as a service business context. The research topic has been chosen to be examined from the context of the case company **Granite Partners Ltd** (Granite). The author of this thesis is an employee of the company, working in the company as a Marketing & Account Manager.

In this chapter, the topic, scope and structure of the research is introduced. The research problem and research questions, that aim to answer this research problem are also introduced. This chapter also describes the gathering and analysis of the research material and used research methods.

1.1 Outline of the research

By conducting this research on the created value to customers, this research aims to identify critical gaps in Granite's value creation process and to provide a framework for future value creation improvement projects. The research consists of a theoretical part and an empirical part. In the theoretical part, the SaaS business context and Granite's business is described. Also a brief introduction to value creation theory is given and three different existing value creation frameworks are selected to be presented in more detail. These three frameworks are the base of the Granite specific framework that is formed in the empirical part of this thesis. In the theoretical part, an initial outline of the framework is formed according to the applicable aspects of the three frameworks, and this outline is revised and elaborated through the online surveys and customer interviews after which a finalized version is formed according to these experiences as well as internal expert discussions about the subject.

The empirical parts of this research consists of three parts. First, a preliminary online customer survey is conducted to identify the overall state of customer satisfaction and created value for the customers. Secondly, two customer interviews are conducted to further identify the critical development areas that need improving. Interview questions are in part based on the gaps and issues identified in the online customer survey. Thirdly, according to the theoretical part as well as findings and experiences gathered during the whole research process, a framework for improving created value to customers is formed and presented.

1.2   Research background and motivation

The overall subject of this research has arisen from internal conversations at Granite regarding development of account management, customer service and different ways of improving added value to customers. Granite is a software company that develops its own Software As A Service (SaaS) product. The product is a comprehensive risk management software that allows customers to evaluate and manage different risks and deviations relating to information security, work safety and business risks. The system also allows customer to train their employees with an online training platform. The software is a cloud software that is used with a standard internet browser.

In addition to constantly developing the software itself, a need for evaluating customer satisfaction and the value creation process as a whole became topical in the end of 2015. A thorough evaluation of critical development areas was needed, in order to prioritize the necessary efforts to improve the customer experience, service production and delivery.

Theoretical studies of value creation have been conducted earlier, but the need to specifically address the subject from the viewpoint of the company itself is important to Granite. Therefore this research aims to shed light on the topic of improving value creation to customers in the context of SAAS business, and from the viewpoint of Granite.

1.3   Purpose of research and research questions

The main research problem of this thesis is **"How can a company in a software as a service business improve value creation to customers with a systematic process approach?"**. The research problems is examined from the viewpoint of a small software company Granite that develops its own SaaS product. The deliverables for the company are a framework for improving added value to customers in future improvement projects, identified concrete improvement areas and an action plan to implement corrective measures to these found critical improvement areas.

The research problem is examined by answering the following research questions:

1. How can value creation to customers and its improvement be approached as a process?
2. What are factors specific to Granite that create value to customers
3. How can a company conduct systematic value creation improvement projects using a process approach framework?

This thesis aims to answer the first research question by conducting a literature review of SaaS specific or applicable literature that describe value creation to customers. Especially different process approaches were examined, and three useful process approach frameworks were selected for further examination. An initial hypothesis framework for

improving added value to customers was formed based on the applicable aspects of the three selected frameworks.

To answer the second research question, first an online customer survey was conducted. This survey aimed to initially reveal gaps between critical areas that are important to Granites customers but where Granites performance is perceived to be low. After possible gaps were identified, an interview questionnaire structure was formed. Four customer representatives from two customer companies were interviewed in a semi-structured interview setting to further identify critical areas for improvement.

To answer the third research question, the interviews were analyzed and internal informal and unstructured discussions were conducted at Granite. Based on the findings and experiences of answering research questions 1, 2 and the research process as a whole, the initial framework was revised to its final form.

1.4   Scope and limitations

The scope of this research was defined to serve the pragmatic goals of Granite. This means that the online survey and interviews are mostly constructed to answer questions that are specific to Granite, not necessarily to answer problems that are present generally in the research field. However, many of the issues are generally present in the SaaS field and other industries as well, so overall generalized conclusions can be derived as well.

The examination of value creation is done from the perspective of value received or perceived by the customer. Value creation is specifically examined in the SaaS business when possible, but other relevant value creation literature is also used. The sources of value creation from the supplier perspective that this thesis examines are limited to organizational functions that concern account management, service production, customer service and general product development processes. This means, for example, that detailed technical product development ideas and new features that would potentially create more value or aspects that are not directly or indirectly controlled by Granite are out the scope of this thesis.

The examined subjects in this thesis are value creation to customers and especially process approaches to value creation to customers. These subject are examined from the perspective of Granite with a pragmatic approach to identify aspects of process approaches that are applicable to Granite's business and of utility to improve Granite's business specifically.

The interviewed customers are selected to represent the use of Granites system comprehensively; meaning that the interviewed customers have the most amount of different types of Granite's modules in use, including everything from online training, infor-

mation security risk management, work safety evaluations to deviation management. This ensures that the needs and concerns are from the most complex scale of Granite's customer community, which probably unearths the most interesting and critical improvement areas.

The obvious limitations of this research is the fact that the approach is somewhat case specific, not an approach that aims to examine the subject matter in a generalized, all encompassing manner. The limitations regarding the framework that is formed in this thesis are the fact that the framework is not based on robust systematic literature review of all the possible process approaches but rather to an expert evaluation of few applicable process approaches. In addition, the theoretical part of this thesis is not an exhaustive review of the whole subject matter, but merely a brief introduction of the subject matter to offer a base for the forming of the Granite specific framework. The case specific robustness of this thesis is created from the systematic empirical methods used in the empirical part of the study, not from the theoretical part as such.

1.5   Research strategy and methods

This thesis is mainly a mixed-method research. The research approach of this thesis is abductive, meaning that it incorporates both elements from the deductive and inductive research approaches and expert analysis to find the most relevant and likely answers to the research problem pragmatically. This thesis can also be seen to include aspects of case study, because it aims to answer problems specific to the perspective of Granite's business case. The overall research strategy of this thesis is presented in figure 1 which is formed according to the illustration presented by Vuori (2011).

RESEARCH STRATEGY	RESEARCH PHILOSOPHY Pragmatism
	RESEARCH APPROACH AND STRATEGIES Abductive, constructive action design research
	RESEARCH METHODOLOGY Mixed methods: literature review, survey, interview
	DATA COLLECTION AND ANALYSIS TECHNIQUE Online questionnaire, semi-structured interviews, expert content analysis, informal unstructured discussion

Figure 1. Overall research strategy of this thesis.

The initial online survey includes elements that can be considered to be quantitative in nature, but other methods, including literature review, internal discussion and semi-structured interviews are all qualitative in nature. The research philosophy of this thesis is pragmatic in nature, meaning that the research question and problems at hand determine the mix of used methods and research philosophical approaches that are appropriate for that specific question (Saunders, 2011, p. 109). This thesis also includes aspects that can be considered to be action design research by nature. However, this thesis doesn't include all the aspects of action design research, like multiple testing of hypothesis along the research process. The constructive action design research approach comes from utilizing different methods that suit the problems discovered as they emerge and revising the initial hypothesis framework as the research progresses to form a finalized framework at the end of the research process. Constructive research also can be seen as a case study to form a solution to a pragmatic problem, with emphasis on the researcher's intimate understanding of the case company's business and innovative and creative problem solving (Virtanen, 2006, p. 48).

The main research methods of this thesis are literature review, online survey and semi-structured interviews. These methods are used pragmatically to answer the questions and problems that emerge in the research process.

With a literature review, one can systematically gather the previous scientific material that exists around the research problem. (Tranfield et al., 2003). Salminen (2011) also points out that a systematic literature review is an effective way to compile different research results and to evaluate the logic of the results. Literature review can also reveal gaps in existing body of research, therefore identifying further research needs. (Salminen, 2011) By gathering information systematically, one can also diminish the bias that the researcher has when selecting material to include in the research. (Salminen, 2011; Tranfield et al., 2003).

By first conducting an online survey, a broad scope of needed focus points is established. This online survey guides the forming of the supporting interview questions. Semi-structured interviews with two different customer companies are used to get a better understanding of the gaps identified in the online survey.

The semi-structured interviews consist of numerous supporting key questions that help to define the areas to be examined, but also allows to further elaborate in order to pursue an idea or response in more detail (Gill et al., 2008). This interview format provides participants with some guidance on what to discuss, which is helpful. The flexibility of this approach allows for the discovery or elaboration of information that is important to participants but may not have previously been thought of as important by the researcher, thus not included in the initial structured questions. (Gill et al., 2008) The conducted interviews are analyzed, an internal unstructured discussion will be held to assess the possible improvements that can be identified from the interview and survey material.

Conducting the literature review is based loosely on the principles presented by Tranfield et al. (2003), where literature collected with database queries is rated by specific inclusion/exclusion criteria. By doing so, one can be sure that the used literature is of high quality. By adhering to these principles, this research follows loosely the process presented by Manikas & Hansen (2013), where the articles found in the data collection are analyzed by using inclusion/exclusion criterion that are designed beforehand. The qualification process is:

1. Collecting the research material by conducting database searches using keywords identified in initial theory background searches.
2. Applying inclusion / exclusion criteria to the found literature. On this basis, articles that don't fill the inclusion criteria or fulfill one or more exclusion criterion will be discarded.
3. Examining the reference lists of the final articles to find more relevant material.

1.6   Gathering of the theoretical research material

Theoretical research material for the literature review was gathered using the following databases:

- Google Scholar
- Elsevier Science Direct
- Scopus
- ACM Digital Library
- IEEE Xplore Digital Library
- Emerald Insight

The databases have been chosen to provide a wide range of different articles. Elsevier Science Direct and Scopus, are multi-disciplinary databases that cover most of the important journals in this research field. ACM digital library and IEEE Xplore Digital Library are databases that are focused on information technology, that cover the more information technology related topics of this thesis. Emerald Insight is a database focused more on strictly business related articles. These databases have some overlap, but overall as a whole they cover the research field quite comprehensively.

Several different search algorithms were used to search the databases in order to include as much of the relevant literature in the research stream. Firstly search algorithms to cover the value creation in SaaS business and the SaaS business as a context were formed. Secondly algorithms to cover the customer satisfaction in the context of value creation were formed.

Keywords in the first type of algorithms consisted of terms associated with value creation literature, for example, "value creation", "value co-creation" and "added value" combined with keywords like "business", "SaaS", "software" and "service". In the second type of algorithms, keywords like "customer", "satisfaction", "perceived value", "customer service" combined with value creation terms were formed. Also in the improvement measure and action planning phase, focused narrow searches were conducted to gather ideas and courses of action per specific identified problem or improvement area.

The inclusion criteria for theoretical material were as follows:

- The publication has to be published in a respected scientific journal or conference proceedings.
- In the SaaS subject area, publications have to be published in the year 2000 or newer.
- In the value creation subject area, publications have to relate to software business or can be clearly applicable to software business.

When forming Granite specific improvement measures and the action plan, focused searches were also conducted to gain more ideas and argumentation for certain courses of action. In these searches also other material than peer-reviewed science publications

were considered for use, for example, blogs and articles of influencer in the management field.

1.7 Gathering and analysis of the empirical research material

Empirical part of this thesis consists of conducting an online survey to all of Granite's customers. In addition, further semi-structured interviews are conducted with 4 customer representatives from 2 different customer companies.

The online survey consisted of a gap analysis that included 22 questions in total and also open ended fields for further information and background questions (see appendix A for questions not presented here). Most of the questions were gap-analysis question, where a certain statement had to be assessed on a scale of 1 to 5 both in terms of Granite's performance in the stated issue and the significance of the issue to the respondent. In addition to a background information section, the survey consisted of 6 different main categories: 1) Acquisition, implementation and pricing, 2) Customer service & account management, 3) Created value to your company from the service, 4) Created value from Granite's expertise, 5) Improvement ideas for our services, 6) Summary and overall assessment.

The online survey was sent to all of Granites customer contact persons on 4th of February 2016. This group consists of 216 different contacts in 130 customer companies. The online survey gained 22 answers, which can be regarded as a good answer percentage in this type of a mass online survey. The answers of the online survey were summarized using the tools offered by survey platform (Google Forms) and results of the survey were discussed internally as well as expert analyzed further by the author. Identified gaps and noteworthy open comments were discussed with the intention of identifying the root cause of the found issues.

The persons that answered the survey represent the different customer segments quite comprehensively in terms of length of customer relationship, operating sector, size of company and used Granite Modules. Of the 22 persons, 54,5% (12) has been a customer for 3-5 years. 13,6% (3) have been a customer for under a year. 31,8% (7) have been a customer between 1 and 2 years. No customer that answered the survey, had been a customer for 6-10 years. 63,6% (14) of respondents operate in the public sector and 36,4% (8) in the private sector. The respondents also use Granite quite comprehensively; all of the 4 different module types were represented in the companies that answered the survey. Of the respondents, 81,8% (18) represent a large organization (over 250 staff members) and 18,2% (4) represented a medium sized (50-250 staff members) company. Small (10-50 staff members) or micro (under 10 staff members) companies didn't answer the survey, although they exist in Granite's customer base. However, the distribution across customer company size reflects the distribution of Granite's customer base, where a majority of customers fall into the large or medium sized category.

The semi-structured customer interviews were conducted during May 2016. The interview template is presented in appendix B. Two customer companies, with 2 interviewees in each interview participated. Both companies are large Finnish companies, representing both private and public sector and different industries. In order to protect the interviewed companies' anonymity, further elaborations of the size and industries can not be made in this thesis.

In the interviews, comprehensive notes were taken during the interview and also an audio recording was recorded of the whole interview. These notes and audio recordings were analyzed and the critical issues were pointed out from the material. These issues were further discussed internally both with management and product development employees and further analyzed by the author. With both of the interviews, root causes and mechanisms of the issues were discussed and speculated internally.

The first interviewed company uses Granite comprehensively to manage work safety related risks and deviations. The other company uses Granite in comprehensive enterprise risk management, as well as work safety deviation and risk management. Both companies utilize Granite's services to almost it's full potential and have been a customer for numerous years, which gives them a good perspective to comment on Granite's service quality and value creation related topics.

1.8   Progression of research and structure of the thesis

In figure 2, the overall progression of the research process is presented. Used research methods in each phase are also stated.
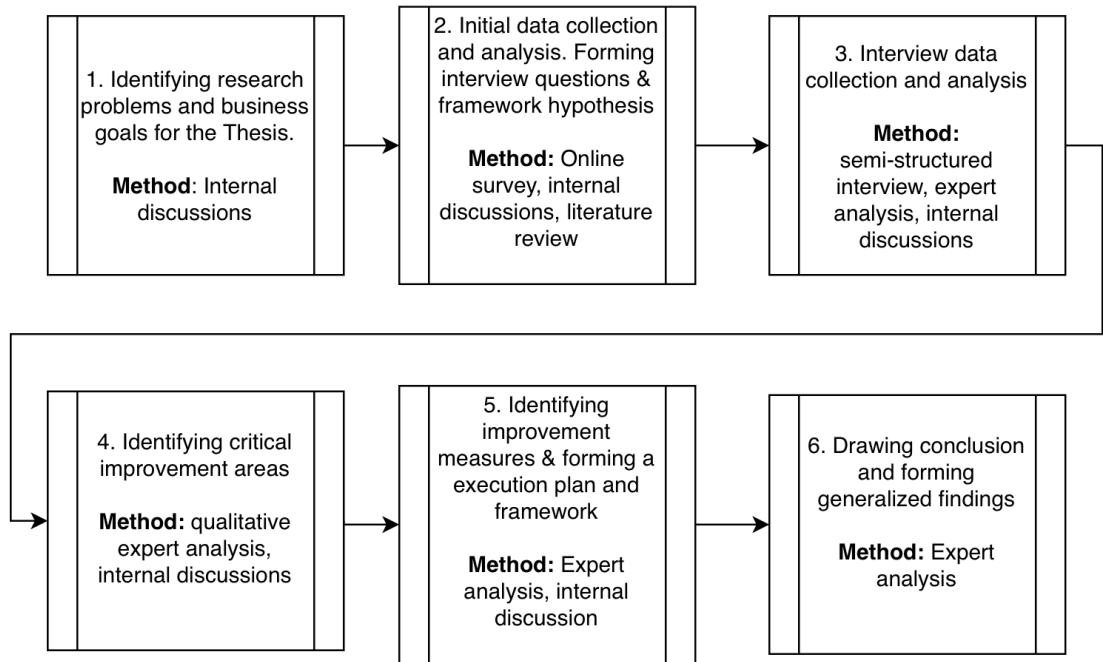
Figure 2. *Progression of the research.*

In the first phase, the overall research problem of this thesis was established. The different business goals that this research tries to achieve were also determined. In the second phase, initial data about possible improvement gaps was gathered by conducting an online survey. The background theory was also gathered using a literature review and based on the selected process approaches, an initial "hypothesis framework" was formed tacitly by deciding the utilized aspects of the selected base frameworks. Based on the survey and supporting literature review and discussion, a template for the interviews was formed. In the third phase, interviews were carried out with four representatives from two different customers companies. These interview materials were analyzed and discussed internally to reveal more gaps in value creation to the customer in the fourth phase.

In the fifth phase, improvement measures are identified by conducting expert analysis and unstructured internal discussions. In addition to creating and presenting the finalized version of the Granite specific framework for improving created value to customer, a practical action plan is also formed to roughly schedule the formed improvement measures for implementation. In the sixth phase, conclusions are formed, and results that can be generalized, are presented.

Timeline for the different phases were as follows: Phases 1 and 2 were completed by the end of March 2016. Phases 3 through 4 were completed by end of June 2016. Phase 5 through 6 and finalization of the thesis was done during July and August of 2016.

In the 2nd chapter of this thesis, the background context of this thesis is described by describing the SaaS business context and Granite's business. The theoretical part of this

thesis is presented in the 3rd chapter, which consists of defining value creation and presenting the process approaches used as the basis of the Granite specific framework. The empirical part of this thesis is presented in the 4th and 5th chapter, including the results of the online survey, interviews and Granite specific improvement measures as well as the finalized framework. In the 6th chapter, conclusion and critical evaluation of this thesis are made.

2. SOFTWARE AS A SERVICE BUSINESS AS THE CONTEXT OF STUDY

In this chapter, the SaaS business field is examined in order to understand the business context in which Granite operates. The focus of this thesis is not on the different aspects of SaaS products, so this chapter does not go into detail on the intricacies of SaaS development or service architecture but rather gives an overall understanding of the business context.

2.1 Software as a Service products and delivery model

Granite's product is a SaaS product. SaaS products are sometimes referred also as "subscription software" (Turner et al., 2003) which describes the nature of SaaS product quite accurately. SaaS is a software delivery model, that separates the ownership of the software from the user; the supplier of the software owns the software and lets the customer use the software through some client–side method like Internet or an intranet (Laplante et al., 2008). This model delivers, as the name suggests, software as a service, and is usually charged per user or with a fixed price per month in a similar fashion that utility services like electricity or internet connections are charged.

SaaS products differ somewhat from normal on-premise software (software installed in customer's own servers or workstations) and normal physical services. There are, however, also many similarities and rules that apply the same to services and SaaS services alike, for example, the importance of the customer relationship and satisfactory customer service. For example, often normal software has to be planned and programmed according to the current needs at the time of the implementation. In SaaS, however, features and services can be added dynamically even after implementation very easily (Turner et al., 2003).

The concept and value of SaaS products and business is quite simple. Rather than purchasing a software and installing it on each workstation separately or installing it on a company's own server, a company or individual can purchase a subscription of a SaaS product which the provider develops and maintains constantly on their own servers. This gives the customer the possibility to cut on costs and headaches of maintenance, administration and hosting the software (Dubey & Wagle, 2007; Waters, 2005). Additionally often no in-house expertise is needed to implement new SaaS software, compared to traditional software implementations (Waters, 2005).

Software as a service differs from normal services in at least a couple of ways: firstly, providing SaaS products doesn't bind the providers necessarily to a geographical location, as the services are usually delivered through the Internet. The services that the application offers, are not produced real time by a human being as with physical customer service tasks, so the use of the services are often totally independent from time and location. Secondly, no physical interaction between the customer and provider is necessarily needed, when implementing the products, as the purchasing and implementing products can be made highly automated.

2.2 Benefits and risks of Software as a Service

Many of the benefits that SaaS offers, are also quite traditional benefits that also IT outsourcing as a whole offers: for example, the ability to focus on core competencies, easier access to technical expertise, and predictable and/or lower costs (Sääksjärvi et al., 2005). Sääksjärvi et al. (2005) have also identified 12 different value propositions for the SaaS customer. These value propositions identified are the following:

1. SaaS enables the customer to focus on its core competencies
2. SaaS makes it easier and/or less costly to get access to required technical expertise
3. The implementation time of the system is shorter
4. SaaS enables a wider and more flexible assortment of payment methods (predictable and/or lower costs)
5. SaaS makes version management easier for the customer (e.g., free upgrades, no technology obsolescence)
6. SaaS provider aggregates software applications from several sources and builds a complete service offering
7. SaaS enables the customer to get access to "best-of-breed" applications that would be too expensive to buy
8. SaaS makes it possible to access the software independently of location and time
9. The initial/investments and costs are much lower in SaaS than traditional software
10. With SaaS, the customer can get access to a superior IT infrastructure regarding reliability, security and scalability
11. SaaS broadens the selection of potential applications available to the customer
12. SaaS enhances the available customization options of applications to the customer

The first value proposition is at the core of every outsourcing decision; the ability to focus on the core competencies of the company is important and by subscribing to a SaaS product rather than develop a software in-house or with a partner frees up the resources to focus on the core business of the company. The cost and expertise aspects described by value propositions 2, 4, 7 and 9 are also associated with traditional IT out-

sourcing decision, but become more prevalent in the SaaS context as well. Benlian & Hess (2011) also argue that cost savings is often seen as the major lever for SaaS adaption for IT executives. They also state that SaaS adoption is not solely driven by possible cost or quality improvements. The expectation also is that SaaS will provide a greater degree of freedom in future software selection decisions in comparison to traditional software (Benlian & Hess, 2011).

Sääksjärvi et al. (2005) also describe some risks that are identified with using SaaS approach. These risks are the following:

1. Less tailoring and integration options available for the customer
2. SaaS increases the risk of losing business-critical data or exposing it to third parties
3. Availability, reliability and performance-related issues are to be expected, depending on the technological solution of the SaaS provider
4. In exchange for the lower price, the customer is typically bound with a long-term contract

The first risk is derived from the fact that custom made traditional software can be tailored to very customer specific needs and several integration to existing customer specific software can also be made. However, one has to note, that the review conducted by Sääksjärvi et al. was done in 2005, when the SaaS field was very different from the current abilities of the more matured SaaS products. Often times current SaaS products can include a considerable amount of mass customization than can be done even by the customer, when implementing the software. Of course, in more complex and customer specific software, the upper hand is on purpose built traditional software.

The second risk is derived from the distribution of the service that is often times done over the public internet. Benlian & Hess (2011) also acknowledge that security risks are the dominant factor, when IT executives consider SaaS adaption. According to Benlian & Hess (2011), these concerns are followed by performance and economic risks. These concerns are also described by Sääksjärvi et al. (2005) in risks three and four.

2.3   Granite's Software as a Service business

Granite offers a modular SaaS product which consists of 4 different types of modules that enable comprehensive risk management. These modules are presented in figure 3.

Figure 3. *Different modules of Granite's software.*

Online training modules consist of ready-made information security courses and a platform that enables customer to create their own online training courses. Risk management modules range from information security assessment modules to work safety assessments. Compliance management modules vary from legislation based compliance lists to several ISO standards. Incident managements modules range from work safety incident reporting to information security deviation management.

Granite's user licensing model is flexible and organization specific, in most use cases. This enables implementing the software to the whole organization cost effectively, which promotes transparency of risk management and makes the tool available to every employee. The user interface is also intentionally kept simple, in order to decrease the barrier to use the software, even for employees that are not so familiar with computer software.

Granite's client community covers the whole spectrum of different customer segments, ranging from government and municipal organizations to healthcare organizations, large private companies to banks and financial sector. Customer needs also vary greatly. For example, hospital districts and government organizations are required by law to carry out and report risk management actions. On the other hand smaller private companies are not required by law to carry out risk management actions, but some choose to do so on varying maturity levels.

The extent of use and ways of using Granite's software also vary greatly from customer to customer. Some customers utilize all of the different modules available comprehensively, others utilize only one. For example, in the ideal case, a company may be using

Granite's risk management modules to make work safety assessment routinely, incident management modules to record and react to safety deviations, compliance management modules to adhere to certain ISO standards and online training to raise awareness of work safety related matters.

Granite's internal functions are roughly divided into product development, service production, customer service and sales & marketing. Product development entails the software development aspects of Granites SaaS product. When discussing service production in the context of this thesis it is defined to include all the actions, excluding software development like programming new features, that have to be taken in order to produce the final service to the customer. This includes, for example, customizing content, configuring the system to customer specifications and various implementation projects. Customer service is produced with an e-mail customer service helpdesk. Sales & marketing function includes the mostly inbound expert selling to customers and various digital and conventional marketing efforts.

The current specific value propositions that Granite offers are different to each different module. For the software as a whole the value propositions are related mostly to strategic, economical, functional and operational values. Strategic benefits are, for example, realized through a centralized system to document, manage and report different risk management related data. Economical benefits are realized, for example, by mitigating risks and prevent them from happening, or by saving time and resources in conducting and reporting risk evaluations. Functional benefits can be realized by, for example, making the daily work of the risk manager seem much easier. Operational values can be realized by, for example, giving the executive level and risk management directors a real time picture of the risk situation at all times and the possibility to assign mitigation efforts, which makes reaction times to deviations shorter.

3. PROCESS APPROACH TO VALUE CREATION TO CUSTOMERS

In this chapter, value creation to customers is examined from a theoretical viewpoint. The aim of this chapter is to provide a basis for the construction of the framework that helps improving created value to customers in Granite's business. This chapter doesn't go into deep detail about value creation beyond the basic theory, but rather tries to present three different process approaches to value creation that are applicable to SaaS business and include aspects that can be utilized in Granite's own framework. Multiple process models were examined and three different process models were chosen to form the basis of Granite's own framework that is one of the deliverables of this thesis.

3.1 Value creation to customers

In the marketing theory field, a shift towards service dominant logic (S-D) has emerged since the 1980's. In addition to pointing out the shift from focus on transactions of goods to a service based business logic, S-D theory emphasizes the importance of different processes that govern the different relationships and interactions in different business functions (Vargo & Lusch, 2004). The logic presented by Vargo & Lusch also point out that the customer is always present as a co-producer of services and as such, a co-creator of value. The supplier is the only one who makes the value propositions, but the process of creating the value is reciprocal, customer oriented and relational to the market (Vargo & Lusch, 2004). For the practitioner, the process driven nature of this service based logic increasingly demands practical process based frameworks to manage the complex relationships that it includes (Payne et al., 2008; Vargo & Lusch, 2004; Smith & Colgate, 2007).

Traditionally, markets and consequently value creation were seen as company-centric phenomenon. This also made the exchange of goods the focus of value creation and relationship management, disregarding the interaction between customers and companies as a source of value creation. (Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2004) However, with S-D and other business and marketing theories, the paradigm has shifted to regarding the customer as a co-creator of experiences and value also. Prahalad & Ramaswamy (2004) suggest that as business ecosystem develop more and more as customer-centric systems, and the customer becomes more knowledgeable and critical of the offering, the role of the customer in the value creation becomes more prominent. They also suggest that high-quality interactions and unique customer experiences with individual customer become the key for competitive advantage, meaning that value will

have to be jointly created with the customer, not only by the firm dictating the value that can be extracted. (Prahalad & Ramaswamy, 2004)

Zeithaml (1988) defines customer value to be the balance between what the customer gets out of the product or service (benefits) relative to what they give up (costs or sacrifices) when acquiring the product or service. Lapierre (2000) also argues that especially in the area of information technology, perceived value is composed of two main dimensions: benefit and sacrifice in addition to several other minor value based drivers relating to product, service and relationship. Ulaga (2003) and Smith & Colgate (2007) suggests that different dimensions of value and its creation from the customer perspective is hard to define, but the overall value delivered to the customer consists of both concrete cost versus benefits assessment as well as more abstract components like perceived value, for example, in relation to competition. Woodall (2003) notes that value to customers as a business concept can be approached from many perspectives, for example, in terms of different business functions. The value created to customers in each different business function can mean very different things: product development is concerned with product attribute related value creation while sales are creating value in a totally different domain (Woodall, 2003).

In the context of this thesis, value to customers is defined as "what the customer gets in relation to what they give, both in concrete measurable costs and benefits, but more abstract and unmeasurable aspects like emotional impacts and benefits as well". In this thesis value creation includes all the actions and processes in all examined business functions and interactions, that aim to create aforementioned value to customers.

Other concepts that are closely related to value creation, and also discussed to some extent in this thesis are value co-creation and added value. In this thesis value co-creation is defined as value creation originating and initiated mutually by both the supplier and customer. Added value is a term that is used in different ways, and sometimes criticized for a lack of robust definition (De Chernatony et al., 2000). For example, according to De Chernatony et al. (2000) the term is sometimes used to mean the additional value that a product or service offers and sometimes its meaning is the value it produces compared to competitors. In this thesis, however, added value is defined as the total amount of additional perceived or received value a product, service or an action produces to a customer, which can be measured both in concrete monetary terms or in abstract terms.

3.2   Examined process approaches to value creation

In order to achieve replicable and comperable results for account management and customer service, a process approach to value creation is of interest to Granite. To form a basis for a value creation framework, several different process models for value creation were examined. Of these models, three different models were chosen to cover the dif-

ferent aspects that meaningfully represent the customer relationships and processes that exists in Granite's business.

3.2.1 Framework for managing customer relationships in professional services

Hirvonen & Helander (2001) present an analytical framework for managing customer relationships in professional services. The framework is directed towards managing professional service relationships, but according to authors can be applied in other contexts also (Hirvonen & Helander, 2001). As such, the framework has good utility in SaaS business, which is at its core, a service business. This framework is illustrated in figure 4.
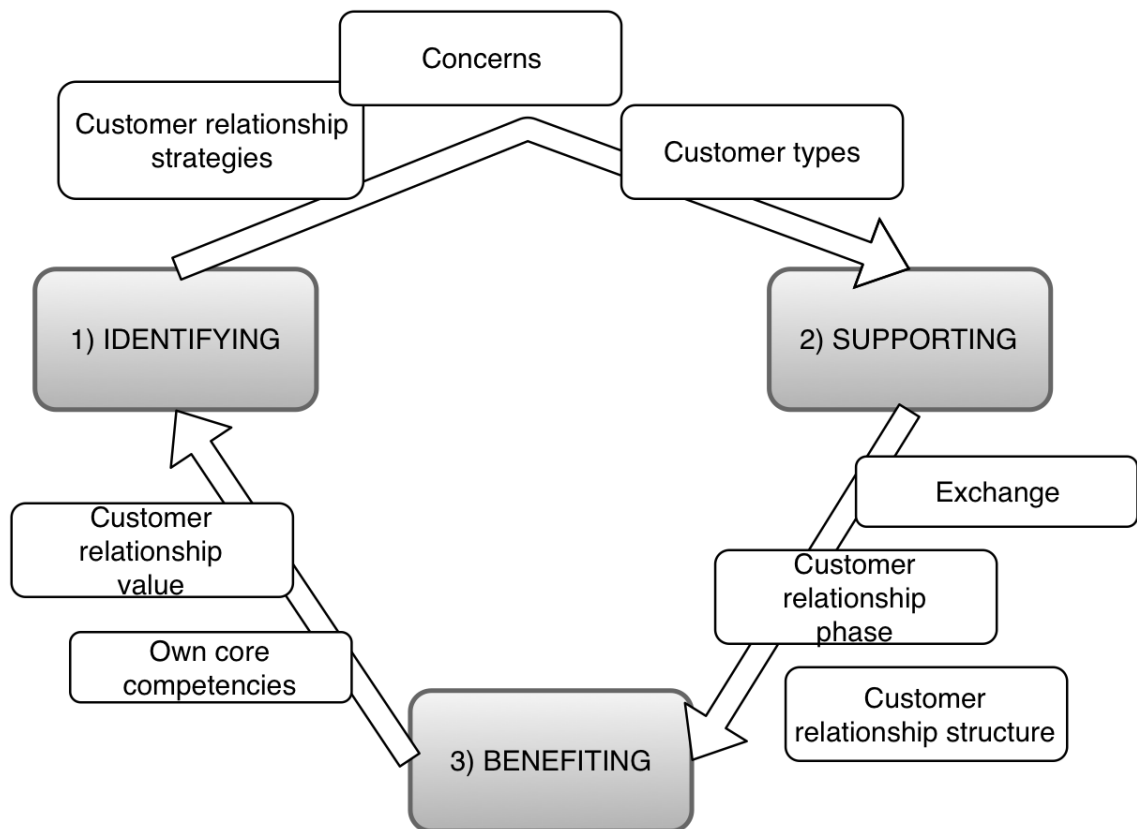
Figure 4. *Framework for managing customer relationships in professional services (Hirvonen & Helander, 2001).*

The framework describes a process which creates value to both the provider and the customer. Through the framework, also hidden customer needs can be identified. The framework doesn't provide any heuristics or concrete instructions, but rather outlines the different aspects which should be addressed when managing customer relationships (Hirvonen & Helander, 2001, p. 283). The framework model progresses in three phases. In the first phase the provider needs to identify the value creation process of the customer, in order to effectively support it. For the provider, it is important to understand

the value creation process and needs of the customer, in order to more clearly communicate the value the provider can create (Anderson & Narus, 1998). It is also important to understand different needs and value creation processes of different customer segments (MacStravic, 1999).

In the second phase of the framework the provider supports the value creation process of the customer in a way that benefits both of the parties. The supplier should carefully examine the phase at which a customer relationship is at that time. Customer relationships at different phases involve different types of exchange of knowledge, emotions, and actions through which value is created for both the provider and customer. (Hirvonen & Helander, 2001, p. 284)

In the third and final phase of the framework benefits are created, especially for the service provider also. According to Hirvonen & Helander (2001) it is important that service offering provided by the supplier company is rooted in the core competencies of that company; otherwise the customer relationships can become too costly in the long run. In their view it is also important, that the supplier identifies the customer relationships, which are most valuable for them and support these relationships the most.

The final point in the framework is, that after the value creation of both the supplier and customer has been identified, correct customer relationship strategies can be formed (Hirvonen & Helander, 2001) Customer strategies can be, for example, of three main types: strategies where the supplier adjusts its processes according to those of customers, strategies where customer adjusts to suppliers process or strategies where both adjust their processes according to each others processes. (Storbacka & Lehtinen, 1997) The last strategy of the three strategies is often the most mutually beneficial, but it demands commitment and willingness to invest into the relationship between customer and supplier. However, in the long run this strategy can lead to creating value jointly, that benefits both parties greatly. (Hirvonen & Helander, 2001)

3.2.2 Framework for managing the co-creation of value with customers

Payne et al (2008) describe a process based framework for managing the co-creation of value with customers. The framework is theoretically based on literature relating to value, value chains, co-creation, service dominant logic, relationship marketing and consumer behaviour. It is also empirically founded in field-based research in the form of workshops with real-life practitioners (Payne et al., 2008). This framework is presented in figure 5.
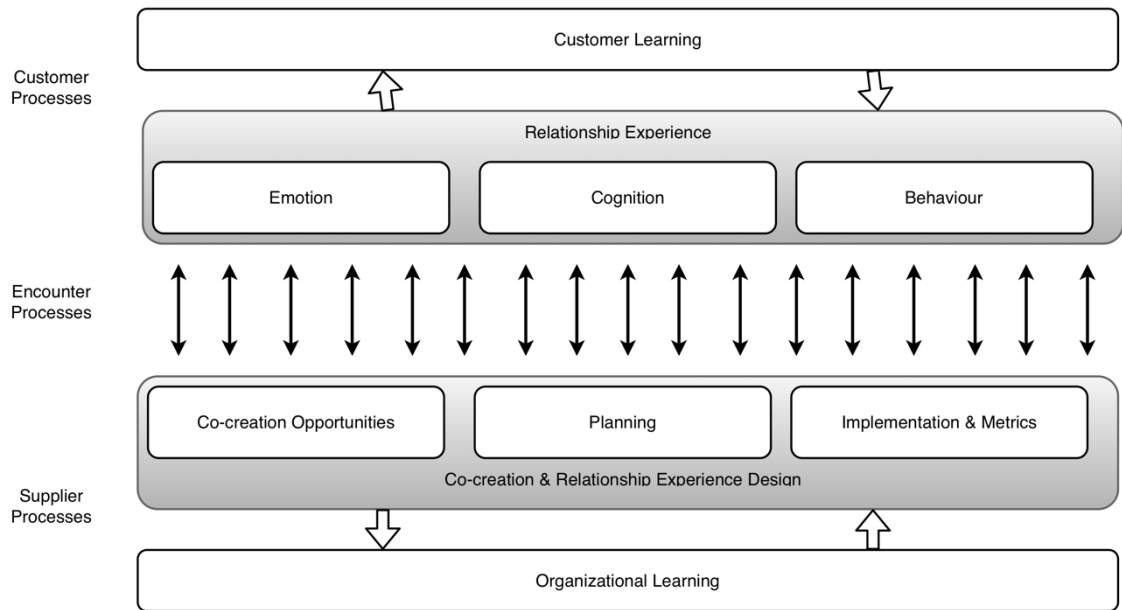
Figure 5. *Framework for managing the co-creation of value with customers (Payne et al., 2008)*

In this framework, the division into three distinct process categories is of utility to Granite. These value-creating process categories are customer processes, supplier processes and encounter processes. Customer value-creating processes in a business-to-business relationships are the processes which the customer organization uses to manage its business and its relationships with suppliers. Supplier value-creating processes are the processes and practices which the supplier uses to manage its business and relationships with customers and other stakeholders. Encounter value-creating processes are the processes and practices of interaction and exchange that take place within customer and supplier relationships. These processes need to be managed in order to develop successful value creation. (Payne et al., 2008)

In addition to viewing customer value-creating processes as concrete engineering and business processes in daily operations, the processes should be viewed also as dynamic, interactive and non-linear, often unconscious processes. This enables to view improving value creation for customers more as an interaction and a relationship, not as a product or service development task. (Haas et al., 2012; Payne et al., 2008) The key is to intimately know the internal processes and practices that the customer has, and identify where and how the supplier can offer value. In order to enhance value creation in these processes, a supplier can either directly offer its resources, or influence the customer's processes positively in some manner. In other words, the supplier has to develop its capacity to either add to the customer's resources in terms of competence and capabilities, or to positively influence the customer's process in such a way that the customer is able to utilize its own available resources more efficiently and effectively (Payne et al., 2008).

The key for improving supplier value-creating processes is to understand the customer's processes thoroughly. This is important in order to choose which customer processes the supplier wishes to support and align its own processes to. (Payne et al., 2008) To understand the customer fully, one can not solely rely on, for example, marketing campaign data. The supplier has to profoundly understand the customer's internal operation, which requires more thorough qualitative research methods, like interviews used in this thesis. According to Payne et al. (2008) in order to maximize the creation of value and positive customer experiences, the supplier should align and design its own processes to match the processes of its customers, instead of merely trying to cater to totally different processes.

Encounter value-creating processes are two-way interactions and transactions between the customer and supplier. These processes can be initiated either by the customer or the supplier and they can involve various functional departments of the company, and are cross-functional in nature. (Payne et al., 2008) According to the authors, encounters can be classified into three forms: communication encounters, usage encounters and service encounters. Communication encounters are activities which are mostly carried out in order to connect with customers as well as promote and provoke dialog. Usage encounters are customer practices in using a product or service and include the services which support such usage. Service encounters are customer interactions with customer service personnel or service applications.

A worthwhile note, that Payne et al. (2008) also make, is that the value propositions have to exists, in order to facilitate meaningful customer experience and for value co-creation to happen between the customer and supplier. This makes it evident, that concrete value proposition per different types of value driver have to be present, in order for mutual value creation and perceiving value to happen around them. The third framework that was chosen for examination in this thesis provides the systematic process to identify and create these value propositions.

3.2.3 Framework for identifying customer value propositions

The third framework is proposed by Rintamäki et al. (2007) that gives steps to identify key dimensions of customer value, develop the value propositions for these dimensions and evaluate the value propositions for their ability to create competitive advantage. The framework identifies customer value in four different categories: Economic, functional, emotional and symbolic. In each of these categories and their combinations, customer value propositions are formed. These customer value propositions are then evaluated to identify potential competitive advantages that can be had. The framework is presented in figure 6.
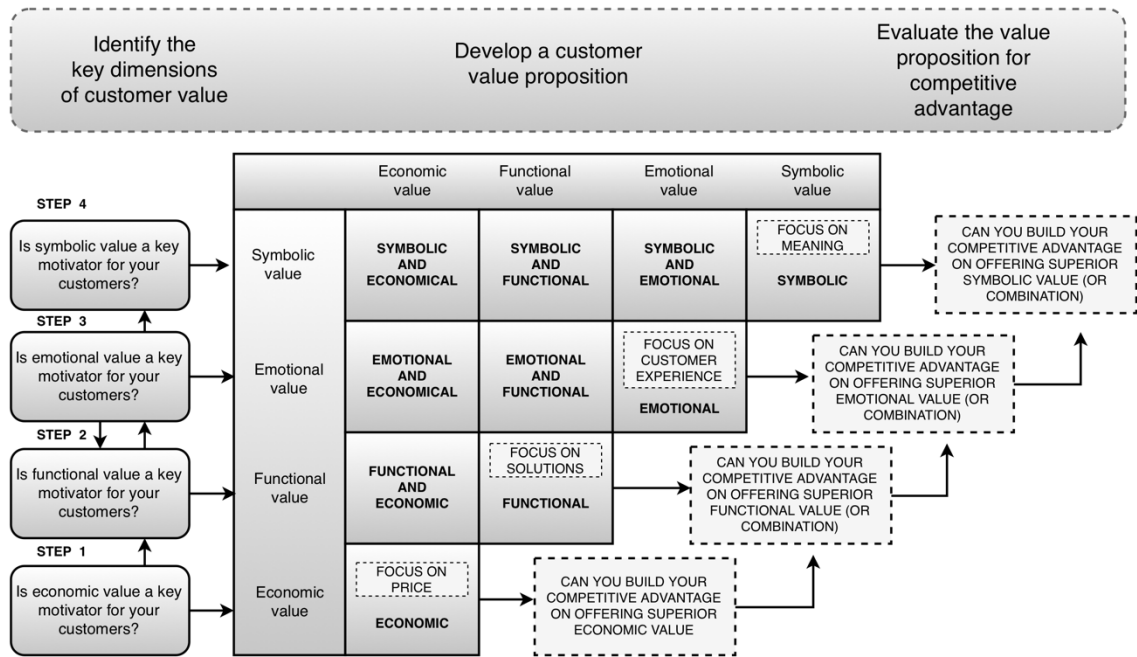
Figure 6. *A framework for identifying customer value propositions (Rintamäki et al., 2007).*

Economic customer value propositions are propositions that address, for example, the customer's considerations on cost, needs for savings or monetary worth from using the software. Economic value propositions can also relate to being the best tradeoff between quality and price. An economic value proposition usually requires resources and competencies based on economies of scale, for example leveraging high purchasing volumes or efficient production or or distribution systems to keep the prices low consistently. (Rintamäki et al., 2007) According to Rintamäki et al. (2007) economic value to customers has to sides: there are customers who acquire products or services based on price only. These customers are not able or willing to make the monetary sacrifice required for higher quality product or services. On the other hand, customers who assess the economic value in relation to the quality of the product or service might change to a more expensive product or service if they perceive the increase in quality to be greater than the increase in price. (Rintamäki et al., 2007)

Customers who are motivated primarily by convenient products or services search for functional value. Sheth et al. (1991, p. 160) define functional value as "the perceived utility derived from an alternative's capacity for functional, utilitarian, or physical performance". In a SaaS context functional values could be the software's ability to make day to day workflow easier, for example. Very often, in Saa business the functional value propositions are derived from key features of the software and used as such as marketing purposes.

Customers whose purchase behavior is motivated by the experience of the purchase process, appreciate suppliers who create emotional value (Rintamäki et al., 2007). Sheth et al. (1991, p. 161) define Emotional value as "perceived utility derived from an alter-

native's capacity to arouse feelings or affective states". In the SaaS context this could mean, for example, that the supplier makes the acquisition process or use of software feel easy, encouraging and empowering to the customer. Emotional value propositions can be also combined with economic and functional value that provoke positive feelings about the product or service, and also present the utility or economic benefits of purchasing the product or service (Rintamäki et al., 2007). In the SaaS context, for example, using a software to perform a task that was previously performed manually can also be seen to make the employee feel less frustrated, in addition to saving time and therefore money.

Customers whose behavior is motivated by self-expressive aspects of being a customer appreciate suppliers who create symbolic value. Symbolic value is created from representing something other than the obvious function of the product or service. (Rintamäki et al., 2007) In the SaaS context, a symbolic value could be, for example, using a software that has a reputation of a user base that appreciates quality and no-compromise attitude in their professional life and therefore gaining this reputation for themselves as well. Symbolic value propositions emphasize self-expression through socially interpreted codes that are embedded in the products or services, and they can also be combined with other value propositions (Rintamäki et al., 2007). For example, proposing that the use of a software will lead to cost savings and therefore lead to stakeholders regarding your organization as a cost-effective and efficient industry leader.

3.3   Summary of process approach theory

The three different process approaches presented previously offer a useful starting point to form the framework of this thesis. By combining the relevant aspects of each process framework, an initial basis of Granite's own framework was formed. This initial version was iterated throughout the research process, gathering more ideas from the online survey and interviews as well as internal discussion with Granite employees. The final version of the framework is presented in chapter 5.

The useful aspects of the first framework presented by Hirvonen & Helander (2001) are especially the overall conceptual idea of first identifying the customer types, needs and concerns after which supporting these needs and customer value processes lead to mutual benefits. The idea of adjusting customer relationship strategies and the overall relationship according to the findings is also of value to Granite.

The second framework presented by Payne et al. (2008) had also aspects that are useful. In this framework, especially the division into three distinct process categories is of utility to Granite. The framework divides value creation to different value creation processes that include the customer, the supplier and the interaction between then. The concept of designing a customer experience and mutual customer and organizational learning is of interest also, but not in a sense, that it would be included in Granite's own process

model. Aspects of the principles can however be applied when using Granite's own framework.

The third framework presented by Rintamäki et al. (2007) is of utility to Granite because of the systematic process it offers in identifying value dimensions and then forming value proposition to each value dimension and assessing their potential. The method of having fixed value dimensions is not useful as such, but the value dimension described in the framework can be used as a starting point to identify possible value dimensions that are relevant to the improvement project or focus point at hand. The process of evaluating the formed value propositions for potential to create competitive advantage is also useful. Combined with the useful aspects of the other two frameworks, it provides a powerful and systematic process for identifying and improving created value to customers.

The initial idea of the framework that was formed based on the useful aspects of the three process approaches is presented in figure 7. The illustration describes the aspects of each of the three process approaches that were chosen for the case framework.

Aspects of framework by Hirvonen & Helander (2001)

1. Overall style according of the framework
2. Step-by-step progression to identify needs, support them and mutually benefit

Aspects of framework by Payne et al. (2008)

1. Concept of dividing value processes to customer, supplier and encounter processes
2. Concept of mutual learning when applying the framework

Aspects of framework by Rintamäki et al. (2007)

1. Systematic process of forming value propositions for each value dimension
2. Guiding value dimensions
3. Assesment of potential of value propositions

Initial Framework for improving value creation to customer

Figure 7. Aspects of the process approaches chosen for the initial case framework.

Firstly, the framework that was formed for this thesis adheres to the overall style of the first framework presented by Hirvonen & Helander (2001) in that it describes broad conceptual steps that are conducted consecutively. The framework also includes steps to identify the needs and value processes, supporting of these processes and clear phases

for measures to mutually benefit from the findings. From the framework presented by Payne et al. (2008) the division to different process categories is used as a guiding principle when forming improvement measures that relate to these categories. The concept of mutually learning was also seen as a good principle when applying the initial idea of the framework. From the framework presented by Rintamäki et al. (2007) the systematic process of forming value propositions for each value dimension is also included in the final framework. The used value dimensions work also as guiding principles when assessing the different categories of value factors. The process of assessing the potential of each value proposition was also seen as useful.

4. CREATING VALUE TO CUSTOMERS IN GRANITE'S BUSINESS

This chapter presents empirical finding regarding value creation in Granite's business. This portion of the thesis identifies critical value factors to Granite's customers and gaps between Granite's performance and customer expectations through the results of the online survey and customer interviews.

4.1 Identified gaps between performance and customer expectations

The initial online survey identified only few slight gaps between Granite's performance and customer significance. The absence of clear major gaps is of course a good thing for Granite, but didn't offer clear areas to focus on when improving the services. The open ended questions however provided additional details about possible areas for improvement, that didn't present themselves so clearly in the gap-analysis. The results of the survey were discussed internally in an unstructured discussion, and possible causes for problem areas were speculated.

The results of the gap-analysis is presented in table 1. Number of responses is 21 in most sections, but 20 and 22 in others, which explains the difference in percentage of all answers. In some cases the number of total answers deviate from 20 to 21 even inside one statement and significance. This is most likely due to respondents' inability to assess that statement, therefore leaving it blank.

Table 1.   *Results of the online survey gap-analysis.*

Statement / Rating on performance & significance	1	2	3	4	5
Acquisition, implementation and pricing					
1. **When acquiring the software, my needs were considered**	0 (0%)	0 (0%)	1 (4,8%)	11 (52,4%)	9 (42,9%)
Significance to customer	0 (0%)	0 (0%)	0 (0%)	11 (52,4%)	10 (47,6%)
2. **Deployment and starting the use of the software worked quickly and**	1	0	3	7	10

clearly	(4,8%)	(0%)	(14,3%)	(33,3 %)	(47,6%)
Significance to customer	0 (0%)	0 (0%)	0 (0%)	11 (52,4%)	10 (47,6%)
3. I was aware of the progression of the deployment through the whole process	0 (0%)	2 (9,5%)	5 (23,8%)	9 (42,9%)	5 (23,8%)
Significance to customer	0 (0%)	0 (0%)	3 (14,3%)	11 (52,4%)	7 (33,3 %)
4. Supporting services are available after deployment (support in using the software, additional features, customization)	0 (0%)	1 (4,8%)	3 (14,3%)	8 (38,1%)	9 (42,9%)
Significance to customer	0 (0%)	1 (4,8%)	2 (9,5%)	8 (38,1%)	10 (47,6%)
5. Pricing is reasonable	0 (0%)	0 (0%)	5 (25%)	10 (50%)	5 (25%)
Significance to customer	1 (5%)	0 (0%)	4 (20%)	9 (45%)	6 (30%)
6. The pricing model is clear	0 (0%)	0 (0%)	4 (20%)	7 (35%)	9 (45%)
Significance to customer	1 (5%)	0 (0%)	5 (25%)	5 (25%)	9 (45%)
Customer service & account management					
7. I always get help to my problems quickly from customer support	0 (0%)	2 (9,5%)	2 (9,5%)	6 (28,6%)	11 (52,4%)
Significance to customer	0 (0%)	1 (4,8%)	0 (0%)	7 (33,3 %)	13 (61,9%)
8. Customer support is professional in my opinion	0 (0%)	1 (5%)	2 (10%)	3 (15%)	14 (70%)
Significance to customer	0 (0%)	0 (0%)	1 (4,8%)	9 (42,9%)	11 (52,4%)
9. The service of customer support is friendly	0 (0%)	0 (0%)	1 (4,8%)	10 (47,6%)	9 (42,9%)

Significance to customer	0 (0%)	0 (0%)	3 (14,3%)	9 (42,9%)	9 (42,9%)
10. There are quality differences between different customer support persons	6 (33,3%)	2 (11,1%)	7 (38,9%)	3 (16,7%)	0 (0%)
Significance to customer	0 (0%)	0 (0%)	10 (50%)	6 (30%)	4 (20%)
11. I know how to contact in issues regarding my customership	0 (0%)	1 (4,5%)	2 (9,1%)	3 (13,6%)	16 (72,7%)
Significance to customer	0 (0%)	0 (0%)	5 (22,7%)	7 (31,8%)	10 (45,5%)
12. My needs are listened to, when I present improvement ideas	0 (0%)	1 (4,5%)	3 (13,6%)	9 (40,9%)	9 (40,9%)
Significance to customer	0 (0%)	1 (4,5%)	3 (13,6%)	9 (40,9%)	9 (40,9%)
Created value to your company from the service					
13. I experience, that Granite's services creates personal value or benefit	0 (0%)	1 (4,5%)	3 (13,6%)	13 (59,1%)	5 (22,7%)
Significance to customer	0 (0%)	2 (9,1%)	3 (13,6%)	12 (54,5%)	5 (22,7%)
14. I experience, that Granite's services create operational value or benefit	0 (0%)	1 (4,8%)	3 (14,3%)	9 (42,9%)	8 (38,1%)
Significance to customer	0 (0%)	1 (4,5%)	1 (4,5%)	10 (45,5%)	10 (45,5%)
15. I experience, that Granite's services create economical value or benefit	0 (0%)	1 (5%)	7 (35%)	9 (45%)	3 (15%)
Significance to customer	0 (0%)	2 (9,5%)	6 (28,6%)	9 (42,9%)	4 (19%)
16. I experience, that Granite's services create strategic value or benefit	0 (0%)	1 (4,5%)	4 (18,2%)	12 (54,5%)	5 (22,7%)
Significance to customer	0 (0%)	1 (4,5%)	3 (13,6%)	12 (54,5%)	6 (27,3%)
Created value from Granite's expertise					
17. Granite's staff is has expertise in my	0	0	3	7	12

opinion	(0%)	(0%)	(13,6%)	(31,8%)	(54,5%)
Significance to customer	0 (0%)	0 (0%)	1 (4,5%)	6 (27,3%)	15 (68,2%)
18. Granite's staff understands the needs of my business and aims to support them	0 (0%)	0 (0%)	6 (30%)	10 (50%)	4 (20%)
Significance to customer	0 (0%)	2 (10%)	4 (20%)	9 (45%)	5 (25%)
19. Granite's freely distributed content (videos, blogs, customer seminars) create added value to us	1 (4,8%)	2 (9,5%)	8 (38,1%)	10 (47,6)	0 (0%)
Significance to customer	1 (4,5%)	4 (18,2%)	10 (45,5%)	7 (31,8%)	0 (0%)

Overall, no major gaps between Granite's performance and significance of the issue to customer were found from the gap analysis statements. However, some unfavorable distributions were found and open-ended comments shed more light on issues that need improvement. The areas that raised concern were related to communication, service production, instructions of use and user management.

Statement 3 showed that all customers weren't aware of the progression of the deployment through the whole process. 9,5% (2) rated the statement with value 2 and 23,8% (5) rated it with value 3. In internal unstructured discussion, this was deemed unacceptable. Open ended comments shed more light on the reasons for low scores for statement 3. Some comments described issues that can be tracked back to the person not understanding internal processes at Granite, which led to the conclusion, that internal processes and Granite's own actions need to be communicated more clearly to the customers.

From the comments, one can also identify the need to make service production processes more efficient. Several customers expressed critique on the slowness of implementing changes or improvements to the software. Comments such as "I hope that all feature request could be implement quicker" and "Sometimes it takes too long, for an agreed new feature to be implemented" hint to the source of the problem. In internal discussions, these problems were identified to be caused by either of two issues: 1) lack of communication of the version schedule and roadmap 2) Lack of process to get features or customer request from account managers to product development

Lack of communication of the version schedule and roadmap can cause customers to be uncertain about the timeline, in which the features are implemented. This can cause

frustration, if the expectation of the customer was, that the features are implemented almost immediately. Granite releases a new version 3 times a year on set intervals. If this is not known by the customer, it can seem as a long time for a feature to implemented. For example, if the request was made right after a version update, when the next update is still many months in the future. Sometimes features are also implemented on later version releases, if the backlog of product development is too great. If the reasons for the delay in implementation are not properly communicated to the customer making the request it can cause frustration and uncertainty about the progress of the feature.

Comments also described the need for more easier user instructions, especially in the use of system administration features, but also for basic use. Comments described that having a comprehensive instructions package would help new users within customer organization to get to know the software and its features.

User management was also identified in a few comments to cause frustration. Several different ways to add user privileges and new users to the software can cause frustration. Also some ways of adding users and privileges are originally designed to be used only by Granite support staff, not by customers, which makes them a bit harder to understand for the average user. Therefore, a need for a concentrated, easy feature to manage user privileges and users is evident.

Statement 10 was deemed poorly formed, because some of the respondents had trouble understanding the negative – positive scale in regards to the statement. "There are quality differences between different customer support persons" is a negative statement, so value 1 would be a positive and 5 would be negative, which differs from all the other answers. This caused confusion amongst some respondents.

An overall estimate of Granite's strengths and weaknesses was also asked by category. The respondents identified customer service, expertise and ease of use as the three most important strengths. Weaknesses were focused on the "other" category, and were related to the same issues described above, according to open comments.

As an additional point of interest in the online survey, Granite's content marketing was also examined. The customers feel that freely distributed content (e.g. videos, blogs and customer seminars) create some value: 85,7% (18) give Granite's performance on the statement a rating of 3 or 4, and significance of 77,8% (17). The issue was also elaborated by asking, if the customer feel that distributing tips and instructions in the social media is useful. 57,1% (12) said yes, 9,5% (2) said no and 33,3% (7) didn't have an opinion. The open comments revealed that some of the respondents weren't aware that Granite distributes content in social media, which can account of some of the people that do not have an opinion on the subject.

4.2 Customer satisfaction and value creation in Granite's customer population

In the online survey, value creation originating from the use of Granite's services were examined in four different categories: personal, operative, economical and strategic value or benefit. From these categories, the economical value category was seen as the least significant to respondents. The most significant category was operative value, where 91% (20) rated it significant at a rate of either four or five out of five. Granite's performance in creating operative value was also rated high: 81% (17) rating the statement with 4 or 5.

Open comments revealed, that economic value and benefits were hard to estimate because of two different factors: the software had been in use for a relatively short period, or the economical impacts of risk management were not analyzed in the customer organization in relation to the software. In order to understand these value factors better, they were further discussed in the semi-structured interviews.

As an overall estimate, customer satisfaction was also examined in the online survey. Three different questions were asked in order to measure Net Promoter Score (NPS) and estimate customer satisfaction overall. NPS is a meter for customer satisfaction used for mostly marketing and customer satisfaction measuring purposes. The first question was asked to rank satisfaction in Granite's services overall in a scale from 1-10. The second question is the question used to calculate NPS, which asked to rank how likely the customer would recommend Granite to a friend or colleague. Lastly, customers were asked have they already recommended Granite to a friend or colleague.

The NPS is calculated from the question "How likely is it that you would recommend a brand or a service to a friend or colleague?" in a scale of 0-10. In this survey, a scale of 1-10 was used by mistake. However, the lowest rank was 4 in the survey, so this error didn't have a large impact on the result. The NPS is calculated by detracting the number of detractors (rating 0-6, extremely unlikely to recommend) from the number of promoters (rating 9-10, extremely likely to recommend) (Reichheld, 2003). In the online survey, number of detractors was 18,2% (4) and number of promoter was 68,2% (15). This gives a Net Promoter Score of 50%.

Some companies, including Amazon and eBay, with the most enthusiastic customer get a NPS of 75% up to 80%. (Reichheld, 2003) An NPS of 50% can be considered as a good base for Granite, although improvement is needed. However, the result is only for guidance, as it is not statistically very valid. The validity is not significant for two reason. Firstly, the sample size of 22 out of 130 customers requires a confidence interval of almost 20 to achieve 95% confidence level. Secondly, the online survey was sent to 205 customer contact persons in those 130 customer companies and was filled out anonymously. This means that duplicate answers can exists from two or more customer repre-

sentatives from the same company. Thus, this measure is used only in internal discussion and guidance, not as a research point of interest.

4.3   Key value factors identified through customer interviews

The interviews examined value creation in slightly different categories. In addition to strategic, economic and operative value, brand value and benefits were also examined. Operative value creation was also discussed as part of other value and benefits. Each category had guiding questions to help elaborate the subject further. In addition to this, implementation and acquisition of the software was examined. What were the goals and expectations when acquiring risk management software, why was Granite's software chosen and how have the goals and expectations been fulfilled.

In the interviews, concrete ideas and suggestion for improvement regarding account management, customer support and service production were also collected. The online survey offered points of interest for this section of the interview. Identified improvement areas from the survey were especially targeted, but also free discussion about concerns and ideas of the customers were elaborated to great detail. The identified improvements are examined in the next chapter.

During the interviews, the difficulty of categorizing value or benefits became evident. Some perceived value factors were hard to assign to a certain category and certain value factors could be assigned to multiple categories. The used categories were also slightly different in the interviews compared to the online survey in order to elaborate more issues that are useful also for marketing purposes. However, the accuracy of different categories is not the most important point in this research; the purpose of categorizing is merely to offer a framework which helps the systematic identification of different values and benefits that the customer perceives and receives.

The central goals for acquiring a risk management software were largely practical in the interviewed customers, relating to implementing risk management culture and actions more efficiently and gathering risk management data in a centralized manner. In both cases, an easily customized software was needed, which would still have ready-made templates and features that can guide the risk management process and support the actual risk management actions and building of a better risk management culture. In both cases acquisition of a risk management software was a part of more comprehensive project to raise the maturity level of risk management in the company. The software was seen as a tool to help implement concrete measures and gather meaningful data, but also to offer ready-made guiding processes.

The reasons for choosing Granite's software over other suppliers were related to ease of implementation, ease of customization, possibility to use ready-made modules and cost. Both customers valued to ability to get started easily and quickly through ready-made

models and features highly, but also valued the ability to flexibly add customization later on, when the needs of risk management make themselves apparent through the use of the software and ongoing risk management practices development. In addition to ready templates, as a SaaS software, the risk management software is fast and easy to setup, which makes implementation a short project instead of a consuming process. The cost of the software was also seen as reasonable compared to competition and the ability to deploy the software quickly with ready-made content further lowers the cost of deployment. Both customers also expressed that Granite being a small flexible Finnish company had a positive impact on the decision to go with Granite.

Customers feel that goals and expectations they set for the acquisition of the software have been mostly fulfilled, even though the development of risk management maturity is an ongoing process. The software has helped support the day-to-day risk management work and the tool has also worked as a guiding factor of risk management work to some degree. Concrete examples of fulfilled goals for the customers include increasing the amount of work safety deviation reports 4-5 fold and shortening the processing times of safety deviation actions. Both customers have also been able to, for the most part, centralize their risk management data into one place, which has yielded benefits through better reporting and overview of the risk situation.

Costs of the acquisition and continued use of the software have been regarded as reasonable. Both customers have made extensive customization to the software with the help of Granite. These projects have stayed within budget and no hidden or unexpected costs have been realized, which has been seen as beneficial by the customer. The organization wide flexible user license in comparison to per-seat user licensing models has also created value in implementing and making the software available to the whole organization. Both of the customers have implemented the system in a way that it's usable to every employee. The other customer has also made the work safety risk management data visible to everyone at the company, in order to yield positive outcomes in terms of work safety awareness and security culture.

Strategic values or benefits identified in the interviews included supporting the actualization of risk management strategies and improved monitoring of set goals for risk management and work safety management to the executive level, but also to every employee. For the other customer, the ability to demonstrate work safety information with the software provides a competitive advantage in bidding competitions: with the software, it is easy to report different measurements of work safety (e.g. frequency of accidents, number of deviations) to the customer, which in some cases is a requirement for the offer to be considered and is a factor in choosing the winner of the bidding.

Economical values or benefits of the software is not measured in money at either of the customers. The value is however present in better ability to measure if risk management is done efficiently and the systematical ability to get risk management actions imple-

mented. In some cases, the risk management work done with the system has guided the way a certain project has been handled, which potentially had impact on risks not realizing. In case of work safety, the other customer has decreased the amount of sick leaves by 1,5% over a two year period, which has an positive economic impact. This has not been confirmed to be caused by the use of the software alone, but the customer sees that the systematic work in increasing work safety awareness and reporting of deviations has had an impact and this work is largely supported by the software. The increased ease of reporting and ability to demonstrate risk situation to stakeholders and public authorities has created time savings in both customer's daily work, which naturally have created economical value. However, this has not been quantified.

Operative value and benefits are realized in making risk management actions easy to manage and report and appoint accountable persons to mitigate the risks in the software. When needed risk mitigation efforts can be appointed and monitored from the same software as the risk evaluation is done, it makes it easy to demonstrate that actions have been taken. The ability to manage all safety related information in one place makes also day-to-day risk management considerably easier. Transparency was also seen as an operative value; when making risk information open through the whole organization, it supports the making of further risk evaluations and identification of risks by giving useful examples of possible risk to other departments as well.

Some brand value and benefits have also been realized for the interviewed customer companies. Overall it creates brand value that the company can demonstrate publicly it is taking risk management and safety seriously. In the other customer's case, the software is also used by contractors for work safety management. This shows the contractors that the company is interested in their safety also. In the other company's case, it creates brand benefits that they can demonstrate legislative responsibilities easily to the public authorities. On some public speaking engagements, the existence of a centralized risk database is also presented, which has been seen as beneficial for the company's brand.

5. EMPIRICALLY GROUNDED FRAMEWORK FOR IMPROVING ADDED VALUE AND CUSTOMER SATISFACTION

In this chapter, the identified points for improvement in Granite's business are examined in detail. Points of interest were initially identified in the online survey and further elaborated in the customer interviews. In the interview, concrete ideas and suggestion for improvement regarding account management, customer support and service production were collected through semi-structured discussion. The identified improvements were partly customer specific, which are not examined here, but mostly improvements that generally improve value creation to the whole customer population. In addition to examining Granite specific improvement measures, the framework for improving created value to customers is formed according to the experiences and observations made in the online survey, interviews and throughout the research process.

5.1 Points for improvement & suggested measures

The initial areas that raised concern in the online survey were related to communication, service production, instructions of use and usability & feature improvement related issues like user management. These topics were further elaborated in the customer interviews. In the interviews, further usability and feature related issues were discovered. The identified improvement areas are summarized below in table 2.

Table 2.   Identified improvement areas.

Communication	Service production	Instructions of use	Usability & feature improvement
1) direct communication to account managers about support related issues had a too long response time. **2)** notable changes in the software (e.g. user interface	**1)** lack of communication of the version schedule and roadmap **2)** lack of process to get features or customer request from account managers to product devel-	**1)** partly inadequate user instructions for some customers.	**1)** better process to systematically identify and record usability issues, new customer needs and suggestions

changes, operation logic) were not communicated and instructed clear enough before version update. **3)** when customer support cases can not be resolved immediately upon contact, a time estimate of completion would be useful.	opment. **3)** supporting customers' internal processes can create additional value		

5.1.1 Communication related issues

Communication to customers was examined through several supporting questions concerning both customer support and account management. Account management was discussed, for example, in terms of making sure that the customer knows who to contact and to make sure that communication about important information regarding the account, version releases and other current issues is clear and effective.

Issues identified related to communication were: **1) direct communication to account managers about support related issues had a too long response time, 2) notable changes in the software (e.g. user interface changes, operation logic) were not communicated and instructed clear enough before version update, 3) when customer support cases can not be resolved immediately upon contact, a time estimate of completion would be useful.**

In internal discussions, the response times of individual account managers were identified as problem based on the online survey as well. When customer contact persons send support requests to personal emails of account managers, the message can get hidden in the mass of other emails, and reply-times can get too long. The customers are instructed to contact the support email in support related or urgent matters, because then the issues are registered in a helpdesk ticketing system, and reply is given within 4 hours of receiving the message. Despite the instructions, customers send requests to account managers, which can cause confusion and delays, if the message gets lost or the account manager is on vacation.

The measure to improve this, is to communicate clearly and frequently of correct process in contacting support or requesting changes. The customer service staff is well equipped and resourced to respond to all customer inquiries, but this service quality is not realized, if the interaction is on hold in the account manager's inbox. Correct process has to be instructed in writing in all customer material and in the software itself and amplified in discussion with customer representatives by account managers and other Granite staff. The point of utilizing the customer service to it's full extent has to be encouraged also in version release notification and other customer interaction messages.

The second communication related issue can be improved by identifying the most dramatic and notable changes that could confuse users with every version release. These changes should then be presented and instructed in a short screencast video in addition to mentioning them in the version release bulleting that is sent to every customer contact person. Helping all users be familiar with new user interface features could be improved by making that instructional video freely available through social media and making it easy to link or embed the video internally in the customer organization. In the interviews, an idea of a centralized public self-help center was also discussed, which would compose all of the instructional material and videos into one place, which would be easy to link to end users in the customer organization.

The third communication related issue can be improved by putting formalized processes in place to customer service. At present time, certain interactions are formalized and made into a process, but a lot is dependent on the customer service persons own personal judgement on how to handle the issue and what information to give the customer. Things like time estimates and other pieces of information that gives the customer ease of mind that the issue is under work and handled correctly could be formalized to be included in the interaction, even if the customer doesn't ask for a time estimate.

5.1.2 Service production related issues

Service production was examined through focusing on the process of customization projects, suggesting new features and improvements on existing features or principles of using the software and the process after a certain suggestion or idea is approved for further product development. Attention was given to the communication and interaction through the process of idea generation to the finalized feature.

As discussed earlier, some concrete issues relating to service production and their causes were identified by analyzing the online survey, and these issues were further elaborated in the interview: **1) lack of communication of the version schedule and roadmap 2) lack of process to get features or customer request from account managers to product development, 3) supporting customers' internal processes can create additional value.**

The first service production related issue can be improved by mostly the same ways that the second communication related issue can be improved. In fact, this issue could also be categorized as a communication issue, but it was examined as a service production issue, because the version release schedule and roadmap are tightly related to service production processes. Communicating the version release schedule and roadmap for future development in every appropriate situation helps the customer understand the process of getting the ideas and new features into production, and alleviates confusion and frustration. When a new customer is acquired, some sort of an information package should be provided at the beginning of the relationship, which includes concise and understandable information about the principles of product development, customer service and other important principles of operation which affect the customer through the customer lifecycle.

The second service production related issue stems partly from the same issue than the first communication related issue: absence of formalized process to get all new feature and content ideas and suggestions from account managers to the attention of product design and development. If no formal database or process exist, especially ideas received in discussions and "in the moment" get easily lost, if the account manager doesn't formally document them right away. Thus, a need for systematic process to collect, document, assess and turn request into technical requirements is evident. The end of this chain already exist in a form of project management tool that enables improvement ideas to be made into a ticket for product development. This system is however not utilized to its fullest extent to document all the ideas and suggestions and then funnel them into feasible ideas for production.

As a third point of interest for service production, the interviews also shed some light on the fact that supporting internal processes of the customer can help the customer get more value from using the software. Both of the customers identified that removing barriers of use could help to get more meaningful risk data to the system and value for its users. For example, helping and supporting the customer deploy the software more fully and get more users to embrace the software as a part of their daily workflow can raise the level of usefulness and operational value. The addition of supporting services or consultation work that help the customer enhance its internal risk management and workflow processes could provide a way for the customer to realize the benefits of the software more comprehensively. For example, when deploying online trainings, a deployment workshop could be offered to set up an underlying process to repeat certain online trainings according to a set cycle and supporting the deployment of the trainings by planning an internal communication campaign to highlight the importance of the trainings.

5.1.3 Instructions of use related issues

Instructions for using the software was seen as inadequate by the other customer, but adequate by the other. This is explained by the fact that the other customer has created extensive instructions themselves for their employees, because the procedures and modules in their use are highly customized. However, further instructions for system administration would still be helpful according to them.

The other customers feel that the absence of user instructions comes up frequently and that the existence of short instruction per topic or feature would greatly lower the barrier for using the software for reluctant users.

5.1.4 Usability & feature improvement related issues

Usability and feature improvement issues were also identified. These issues were related mostly to minor ways of making the user interface more unintimidating and easier to use, so that the barrier to use the software would be as low as possible for even the the most reluctant user. Both of the customers had several different improvement ideas and suggestions for new features to the software that would make the software even better for their use cases. However, these issues are not discussed here in detail in part because they are not the focus of this study and partly because they contain strategic information that can be considered confidential.

However, it can be extracted from the interviews that a need for improvements regarding the development of usability and ease of use exists. The identified concrete improvements at this stage are not critical in nature, but a better process to systematically identify and record usability issues, new customer needs and suggestions is evident. Also a strategy to collect improvements ideas and new feature suggestions should be formed. The other interviewed customer also stressed the importance of focusing the product development on the usability aspects, because in their case it would have the greatest impact on the usage levels of the software throughout the company by lowering barriers of use.

In case of Granite, collecting ideas is especially difficult, because ways of using and goals of use vary greatly from customer to customer. New features and improvements that are beneficial to the whole customer community are of course a priority, but the prioritizing of ideas according to that attribute isn't always easy because customer specific needs are often very specific to only that customer. In addition there has to be a balance between customization to only few versus mass customization that benefits the whole customer community. Ability to customize to customer needs is a competitive advantage, but taking it too far can turn into too long development times and too many features that are costly to implement but benefit only few (Du et al., 2003).

 Existing users that have already adopted a certain routine in using a service often times are not good subjects for so called lead users, that have the best insight and most needs for new features (Hannukainen & Hölttä-Otto, 2006). According to Hannukainen & Hölttä-Otto (2006), "extraordinary users" can however offer a good insight on needs that are applicable to a wider audience as well. Extraordinary users are users that experience needs more often and in a larger scale than regular users (Hannukainen & Hölttä-Otto, 2006). For analogy, a casual cyclist has fewer and simpler needs than a competitive road cyclist. In Granite's case, this would mean that the collecting of ideas and suggestion would happen from the most demanding and complex customers, that use the software as comprehensively as possible.

Because all new features have to be assessed by how well they answer needs of the customer community as a whole in balance with how well they answer the customer specific needs that aren't applicable to the rest of the customer community, a systematic way of assessing the importance and priority of the idea or suggestions has to be created. For this purpose, some sort of combination of different models could be created. For example, a good base for this model could be the "House of quality method", which is a product development method that connects customer needs and their priorities to design attributes, cost and feasibility assessment and needed engineering measures.

The method especially helps to structure the different customer needs hierarchically to strategic primary needs and to secondary needs under them, and further connecting them to concrete design and engineering considerations (Hauser, 1993). By using a formal model or framework to collect different ideas from several "extraordinary users" in a workshop or several customer specific workshops, a unified summary of different overlapping needs could be formed and then moved into product development process more systematically.

5.2   Action plan for improvement

After the interviews, some evidently necessary measures were taken improvement actions were already put to place to improve the communication related issues, for example, by further communicating to certain active customers to utilize primarily customer support instead of communicating support request through account managers. An overall plan and suggestions to implement additional improvement measures is also formed to be deployed in the future.

Communication is improved by adding short prompts and reminders to all customer communication to utilize the customer support to its full potential. A process of version bulletins is already in place to inform customer of new version releases and their features. This version release email is updated with a short video or other easy to consume format information about the most notable changes from the next version release bulletin onwards.

Communication and interaction between customer support staff and customers is also discussed and further planned during the fall of 2016. The customer satisfaction of Granite's e-mail support was in a very good level in the online survey. However, slight improvements on communication and systematized processes for interaction can be made. These potential additional improvements should be further examined and planned, which however, is outside the scope of this thesis.

A need for systematic process to collect, document and rate usability and development ideas is evident. Planning and implementation of this process is suggested to be done during 2017. A suggestion of this thesis is also, that customer satisfaction & development idea related online surveys are implemented every year in the future. These surveys can be utilized to collect initial ideas which can then be elaborated with extraordinary lead users in more detailed interviews. In addition to separate projects that aim to improve customer satisfaction, a separate process to gather product ideas would be beneficial. For service production and product development, a formalized funnel to process ideas from initial ideas to feasible improvements or new features would constantly yield customer need driven ideas instead of only separate idea gathering events. This could be implemented by, for example, an always open online form, which the customer could utilize to request changes or offer improvement ideas.

A suggestion of this thesis is also, that systematic value creation improvement projects are carried out once a year according to the framework that is presented in the next sub-chapter. The aforementioned usability and development idea collection can also be combined into this process. By conducting this systematic process yearly, critical improvement areas could be identified and service production and product development plans steered in a customer driven manner. The scope and focus points of each yearly improvement project can be configured for each implementation separately, to which the framework offers great flexibility.

Improving the user instructions has already begun by creating screencast videos and forming an online course for system administrators. Further instructional videos about key features and especially new features is also needed. These are planned to be created by the end of 2016 and the practice of making helpful videos a monthly procedure.

Service production related improvement measures have also been partly initiated. The communicating of the version schedule and roadmap was kicked off at Granite's yearly risk management seminar in May. This process is ongoing and the roadmap will be communicated more clearly in future version release bulletins. Internal processes and protocols for account managers are scheduled to be discussed and further planned internally during the fall of 2016. Also the supporting services portfolio is discussed and developed during the fiscal year of 2016-2017 in order to possibly offer workshops and consulting to improve customer's internal processes to create additional value.
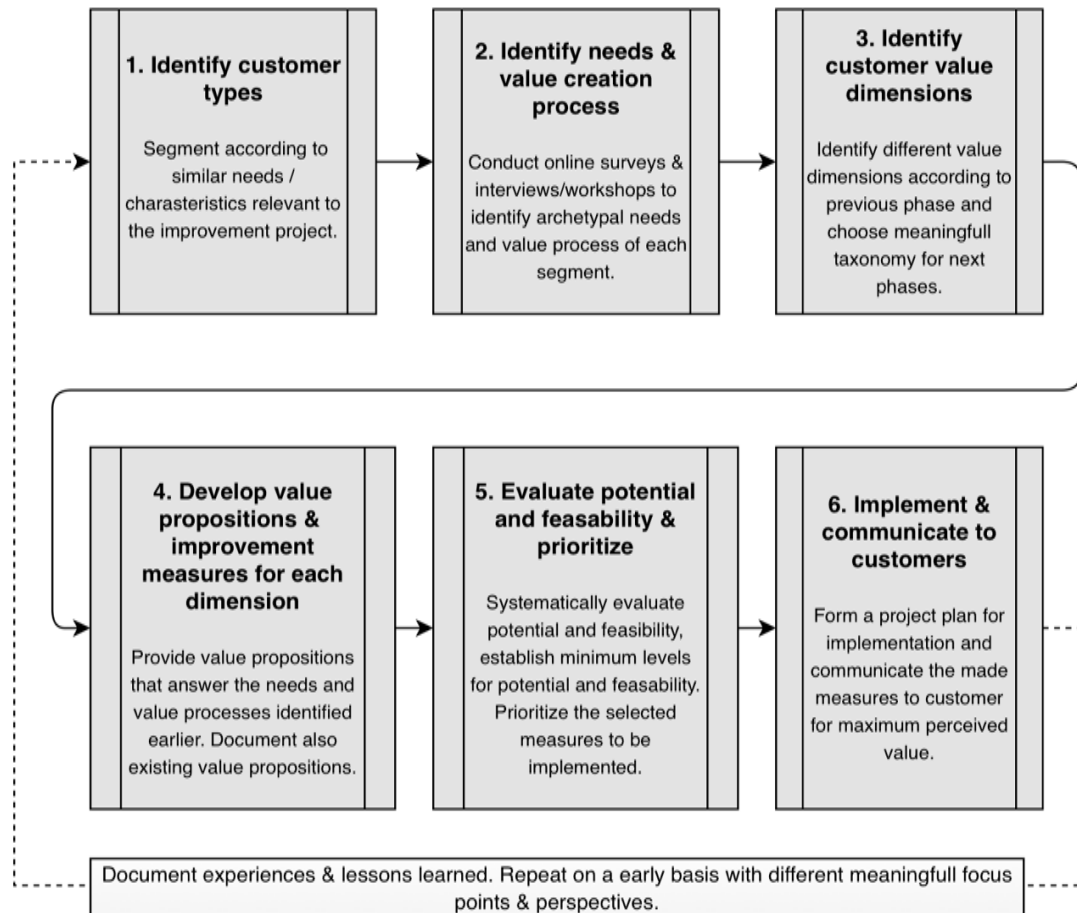
5.3   Framework for improving value creation

In chapter 3, the different process approaches to value creation were summarized and an initial outline of the framework for improving value creation was formed. By joining these process approaches with the experiences and observations gained in the online survey, customer interviews and the entirety of this research process, a Granite specific framework is created in this subchapter.

The framework presented here examines improving value creation from a relatively high abstraction level, because too specific steps would present too much restraint and bias on applying the framework for different types of customers or different types of companies utilizing this framework. The purpose of this framework is not to be a step-by-step checklist, but rather to provide an overall process and guideline to systematically identify and document improvement by some relevant category and implement corrective measures and strategic decisions.

At the beginning of the research process, the framework existed as a concept of possible phases and principles that the framework would include. During the research process, the experiences and feedback gathered from the online survey and interviews guided the revision of the original idea. The framework has also been revised according to hindsight revelations experienced during the process that were related to principles or processes that in hindsight would have made the research process easier and systematic. For example, feedback about the quite long duration of the online survey were noted and reflected in the guiding principles of the framework. The use of interviews was also validated to be very useful in identifying complex user needs and value processes through the experiences had during the research process. Similarly, online surveys were experienced as not sufficient alone to identify value creation mechanics and customer needs in a detailed and meaningful enough manner.

The framework that was created is presented in figure 8. The framework is a process that is divided into 6 different phases. The process begins by examining and categorizing the different types of customers that a company has, and identifying the different needs and ways that value from a company's services is created to customers in a particular category. The process then identifies different customer value dimensions that exists in a company's business and develops different value propositions and corresponding improvement measures for each dimension. These measures are then evaluated for potential and feasibility, prioritized, and put into action. Communicating the measures made to the customer is also seen an important part of creating more perceived value to the customers.

Figure 8. *A framework for improving created value to customers.*

In the **first phase** of the process, different customer segments that exists in the company's business is examined. This is done, because it is important to understand the different types of customers and their special needs regarding the service or product that they are acquiring (Hirvonen & Helander, 2001). The segmentation can be done according to any style, that is meaningful in relation, for example, to the improvement project at hand or the industry in question. For example, for some companies, the segmentation is meaningful to be done according to industry of the customer, for others the segmentation is done according to customer size or according to what products of the company's product portfolio they use.

The key point in the first phase is to segment the customer according to distinct needs that can be categorized for a certain segment. For example, in Granite's case, customer needs are related strongly to size of the customer, maturity of risk management, different modules in use and industry of the customer. Each of these, or a composition of them could be used as a basis of an improvement project done using this framework.

In the **second phase** of the framework, different archetypal needs and typical value creation processes of different customer segments are identified. This enables a company to fully understand how value is created in the context of using the provider company's

product or services and what are the key factors that particular customer segment appreciates or perceives as critical to their business (Hirvonen & Helander, 2001). The identifying can be done by any means that can provoke and elaborate honest answers from the customers of each segment. As discussed previously, identifying "extraordinary lead customers" is important in order to identify needs and value creation that is applicable to the whole segment. The suggestion of this framework is to utilize a similar process that was used in identifying value creation of Granite's customers in this thesis.

Firstly, an overall brief survey of the whole customer base should be conducted to give an overall picture and identify possible points of interest. Secondly, at least one to three extraordinary lead customers should be selected per each customer segments for further examination. These customers should represent the archetype of the customer in that particular customer segment. Thirdly, these customers should be interviewed in a manner that provokes and elaborates the answers on special needs and value creation processes most comprehensively. This could be, for example, a semi-structured interview similar to the interviews used in this thesis, or a workshop consisting of several different customers at the same time, for example, divided into separate workshops for different customer segments.

The key point in the second phase is to identify and document the honest needs of the customers and the internal process behind the value created by the provider's service or product. The end product is a description of special needs and value creation processes for each distinct customer segment. The abstraction level of these can be selected according to the needs of the improvement project. This phase can of course also identify critical customer specific improvement needs as a byproduct of the interviews or workshops.

In the **third phase** of the process, different customer value dimensions are identified according to the finding of the second phase. This process is inspired by the approach in the framework presented by Rintamäki et al. (2007) and is done in order to categorize different value propositions and their corresponding improvement measures in the next phase. Similarly to the second phase, the value dimensions can be categorized in any way that is meaningful to the provider or the improvement project at hand. For example, in this thesis, value was discussed in categories of personal, strategic, economic, operative, brand value and other values. The absolute correctness of the used dimensions is not important; it is merely a way to categorize different value factors to meaningful entities that can be improved with similar improvement measures. The key point of the third phase is to provide useful structure for value propositions and improvement measures.

In the **fourth phase**, value propositions and corresponding improvement measures are developed for each value dimension. The aim of the fourth phase is to provide corresponding value propositions to the needs or value factors that were identified in the second phase and also to form a comprehensive picture of the overall value propositions

that the provider offers. In addition to improving the value creation, this data can be used, for example, in sales and marketing purposes.

The value propositions can be of three different types: 1) value propositions that are realized fully with existing product or service features, 2) value propositions that require new product or service features or other actions to be realized or 3) value propositions that are partially realized, but need improvement measures to reach their full potential. When forming the value propositions, it is also important to compare and reflect the value propositions to competitors offering and make strategic decision to gain competitive advantage relative to competitors.

After value propositions for each value dimension are formed, corresponding improvement measures and other actions are identified for type 2 and 3 value propositions. For each value proposition, possible measures should be examined in at least three different categories that Payne et al. (2008) described in their framework: measures relating to either customer processes, supplier processes or encounter processes. In addition, other specified categories or an summarizing miscellaneous category can be used. The aim of categorizing the measures is to widen the examination from only the things the supplier can implement in its own business to measures that include the interaction with the customer and even supporting and influencing the improvement and renewal of internal processes of the customer in order to gain value and benefits for both the supplier and the customer. The measures relating to customer processes can be very subtle in nature, for example, systematically suggesting the customer to prefer certain procedures and principles over others or rewarding customers from certain mutually beneficial behaviors with discounts. The key point of the fourth phase is to collect concrete, actionable measures that can improve the created value in each value dimension.

In the **fifth phase**, each improvement measure is evaluated for its potential to create more value and feasibility of its implementation, similarly to the manner that Payne et al. (2008) evaluate the potential of the value propositions to create competitive advantage in their framework. The measures are also prioritized according to their criticality or order of implementation, for example. The aim of this phase is firstly to systematically evaluate the potential of the measures to create more value and secondly to evaluate to feasibility of the measures to be implemented in regards to cost, resources, possible outcomes and so on. The potential can be evaluated by any meaningful scale or rating and also by forming a concrete description of the potential of the measures and its implications. A certain cutoff level can also be defined, which describes the level of potential and feasibility that a measure has to reach in order for it to be actually implemented. After the measures to be implemented have been chosen, they should be prioritized according to their importance or the needed sequence, if dependencies exist between measures, for example. This helps the systematic implementation of the measures in the last phase.

In the **sixth phase**, the chosen improvement measures are implemented systematically, and the made improvements are communicated to the customers in meaningful ways. In this phase, an overall project plan to implement the changes should be made. The plan should include the timeline of improvements to be made, responsible parties for their implementations, indicators that can be measured to estimate success and overall budget and resource plans for the measures. It is also important to communicate the made improvement to customers insofar as they can be made public. By communicating the value propositions and made improvements, especially perceived value is increased in addition to the received value through the actual measures. By communicating the made improvements and therefore making the customers aware of the taken actions, additional feedback, suggestions and new ideas can also be provoked and documented from the customer base for future improvement projects.

6. CONCLUSIONS AND DISCUSSION

In this chapter, the results of this thesis are summarized and conclusion are made based on the findings of the research. The impacts of the research are also examined in the context of Granite's business and the research field. An assessment of the robustness and quality of this thesis is also given. Lastly, recommendations for further research are presented both to the scientific community and managerial implications for developing Granite's business are elaborated.

6.1 Conclusions and generalized results

From the online survey, an overall picture of the current state of customer value creation and customer satisfaction was gained. Overall, no major gaps between Granite's performance and significance of the issue to customer were found from the gap analysis of the online survey. However, other questions and open-ended comments shed more light on issues that need improvement and some comments also described improvement measures and suggestions that are usable as such. The process of conducting the online survey also revealed improvement ideas for further implementations of surveys that will be conducted in the future.

Further elaborating the findings from the online survey with the customer interviews offered a more comprehensive picture about special needs and value dimensions that customer appreciate. The interviews also identified several concrete improvement ideas and new feature suggestions, which are very useful to product development and service production improvement. Feedback about recent updates were also identified and documented, which helps service production and product development improve their operation.

In the interviews, also concrete improvement areas were identified that were related to four distinct categories. Issues relating to communication, service production, instructions of use and usability & feature improvement were identified to be the target for improvement measures. Concrete improvement measures were formed for each issue, which can be realistically implemented during fiscal year of 2016-2017.

A framework for improving created value to customer was formed based on three process based approaches on value creation frameworks and iteratively refined throughout the research process according to the experiences and findings from the online survey and customer interviews. The final version of the framework offers a systematic way to

tackle all future improvement projects at Granite or other companies utilizing the framework.

Despite the fact that the framework was primarily formed to serve the needs of Granite, the framework describes the different steps of the process in a quite high abstraction level, which enables the framework to be used by any SaaS company or even companies that do not represent the SaaS industry. The overall illustration of the framework is quite simple, but the in detail descriptions of each phase of the process gives robust guidelines and suggestions to conduct a systematic improvement project, without asserting too much bias or restraint on the used methods or taxonomies. This makes the framework industry and company independent.

6.2   Impact of the research and assessment of quality

The findings of this thesis can be estimated as very useful to Granite. They provide concrete empirically founded and customer driven focus points for improvement and offer concrete measures for their improvement. Some of the improvement measures and suggestions mentioned in this thesis have already been implemented to some extent. The experience gathered during the research process is also helpful in similar improvement projects in the future.

The formed framework has been proven to be of great utility to Granite. It provides a systematic, replicable, comparable and thorough process to conduct improvement projects on a yearly basis in the future. The combined deliverable of the experiences gained through the research process and the systematic process of the framework will make conducting improvement projects considerable easier in the future.

As stated earlier, the framework is formed primarily to serve Granite's need and as such, the decision to include different aspects of existing frameworks and particular phases, principles and methods is not scientifically rooted in, for example, robust systematic literature review of all possible ways to form a framework regarding this subject matter. Rather, the decisions have been made according to the expertise of Granite employees and through internal discussion about the subject. The framework as such was also not used from start to finish in this thesis, because it was formed during and with the experiences of this thesis research process. However, the overall principles outlined in the framework were applied during this research process also. In order to validate the framework fully, real world testing of the framework and theoretical validation is also needed, which is outside the scope of this thesis.

The online survey acted as a guiding reference for the customer interviews, but the statistical significance of the online survey was not valid because of low amount of answers in relation to the amount of customers. However, the purpose of the online survey was not to gather statistically robust empirical research material, but to give a snapshot

of the current state and gather improvement ideas and guiding subject matters for the more detailed customer interviews.

The customer interviews gathered the most significant empirical material and provided a great deal of insight into areas that need improvement. However, the small amount of interviews conducted can be seen as a limitation of this thesis. By conducting more interviews, a more comprehensive picture of value creation mechanics could have been gathered. In the timetable of this thesis, conducting more interviews was not possible, so the two interviews were conduct as thoroughly as possible, spending around 2 to 2,5 hours on each interview.

The semi-structured method that the interviews were conducted in, is quite robust. The interviews were recorded with an audio recorder and documented in writing carefully for later use and analysis. The interviews were not transcribed and the documentation annexed in this thesis because of confidentiality issues regarding the need to maintain absolute anonymity of the interviewed customers because of the delicate nature of risk management subject matter. The material gathered in the interviews included also subjects and ideas that are outside the scope of this thesis, so indirectly this thesis also greatly benefitted others functions of Granite's business including, for example, marketing as well.

6.3 Recommendations for further research

Recommendations of this thesis to Granite is to further validate and revise the framework through real world use over several implementation rounds. After robust empirical validation and theoretical argumentation, this framework could be presented more comprehensively to the scientific community. A theoretical validation and argumentation of different revised phases would also increase the validity of this framework in other use cases than Granite's own business development.

For the scientific community, this thesis recommends that pragmatic frameworks as the one presented in this thesis could be improved if they would be formed and validated in co-operation with companies that use and revise the framework in real world use. In the opinion of the researcher, theoretical models and frameworks should always be validated through real world appliance, which in part can offer new insights in the detailed and often philosophical models and theories of the academic world. The co-operation with practitioners would also facilitate the real world impact of the research by distributing the results of the research to wider audiences.

The researcher also suggests that especially further theoretical validation of the framework and its principles should be done within the scientific community. This would facilitate the use of the framework even further and by a broader community. The prin-

ciples and arguments of the framework should also be robustly tested empirically by interviewing practitioners that have applied the framework, for example.

REFERENCES

Anderson, J. C., & Narus, J. A. (1998). Business marketing: understand what customers value. *Harvard Business Review*, *76*, 53–67.

Benlian, A., & Hess, T. (2011). Opportunities and risks of software-as-a-service: Findings from a survey of IT executives. *Decision Support Systems*, *52*(1), 232–246.

De Chernatony, L., Harris, F., & Dall'Olmo Riley, F. (2000). Added value: its nature, roles and sustainability. *European Journal of Marketing*, *34*(1/2), 39–56.

Dubey, A., & Wagle, D. (2007). Delivering software as a service. *The McKinsey Quarterly*, *6*(2007), 2007.

Du, X., Jiao, J., & Tseng, M. M. (2003). Identifying customer need patterns for customization and personalization. *Integrated Manufacturing Systems*, *14*(5), 387–396.

Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *Br Dent J*, *204*(6), 291–295. http://doi.org/10.1038/bdj.2008.192

Haas, A., Snehota, I., & Corsaro, D. (2012). Creating value in business relationships: The role of sales. *Industrial Marketing Management*, *41*(1), 94–105.

Hannukainen, P., & Hölttä-Otto, K. (2006). Identifying customer needs: Disabled persons as lead users. In *ASME 2006 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference* (pp. 243–251). American Society of Mechanical Engineers.

Hauser, J. R. (1993). House of Quality. *Sloan Management Review*, *34*(3).

Hirvonen, P., & Helander, N. (2001). Towards joint value creation processes in professional services. *The TQM Magazine*, *13*(4), 281–291.

Lapierre, J. (2000). Customer-perceived value in industrial contexts. *Journal of Business & Industrial Marketing*, *15*(2/3), 122–145.

Laplante, P. A., Zhang, J., & Voas, J. (2008). What's in a Name? Distinguishing between SaaS and SOA. *It Professional*, *10*(3), 46–50.

MacStravic, S. (1999). The Value Marketing Chain in Health Care. *Marketing Health Services*, *19*(1), 14 – 19.

Manikas, K., & Hansen, K. M. (2013). Software ecosystems–a systematic literature review. *Journal of Systems and Software*, *86*(5), 1294–1306.

Payne, A. F., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. *Journal of the Academy of Marketing Science*, *36*(1), 83–96.

Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, *18*(3), 5–14.

Reichheld, F. F. (2003). The one number you need to grow. *Harvard Business Review*, *81*(12), 46–55.

Rintamäki, T., Kuusela, H., & Mitronen, L. (2007). Identifying competitive customer value propositions in retailing. *Managing Service Quality: An International Journal*, *17*(6), 621–634.

Sääksjärvi, M., Lassila, A., & Nordström, H. (2005). Evaluating the software as a service business model: From CPU time-sharing to online innovation sharing. In *IADIS international conference e-society* (pp. 177–186). Qawra, Malta.

Salminen, A. (2011). Mikä kirjallisuuskatsaus? - Johdatus kirjallisuuskatsauksen tyyppeihin ja hallintotieteellisiin sovelluksiin. *Vaasan Yliopiston Julkaisuja*.

Saunders, M. N. (2011). *Research methods for business students, 5/e*. Pearson Education India.

Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research*, *22*(2), 159–170.

Smith, J. B., & Colgate, M. (2007). Customer value creation: a practical framework. *Journal of Marketing Theory and Practice*, *15*(1), 7–23.

Storbacka, K., & Lehtinen, J. R. (1997). *Asiakkuuden ehdoilla vai asiakkaiden armoilla*. WSOY.

The Net Promoter Score. (2016). Retrieved July 30, 2016, from https://www.netpromoter.com/know/

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, *14*(3), 207–222.

Turner, M., Budgen, D., & Brereton, P. (2003). Turning software into a service. *Computer.*, *36*(10), 38–44.

Ulaga, W. (2003). Capturing value creation in business relationships: A customer perspective. *Industrial Marketing Management*, *32*(8), 677–693.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, *68*(1), 1–17.

Virtanen, A. (2006). Konstruktiivinen tutkimusote. *Ammattikasvatuksen Aikakauskirja*, *1*(2006), 47–49.

Vuori, V. (2011). Social media changing the competitive intelligence process: elicitation of employees' competitive knowledge. *Tampereen Teknillinen Yliopisto. Julkaisu-Tampere University of Technology. Publication; 1001*.

Waters, B. (2005). Software as a service: A look at the customer benefits. *Journal of Digital Asset Management*, *1*(1), 32–39.

Woodall, T. (2003). Conceptualising'value for the customer': an attributional, structural and dispositional analysis. *Academy of Marketing Science Review*, *2003*, 1.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end

model and synthesis of evidence. *The Journal of Marketing*, 2–22.

APPENDIX A: ADDITIONAL ONLINE SURVEY QUESTIONS

This is a list of the online survey questions that were not presented in the body text of the thesis as such. The questions included in the survey that are not presented in this appendix are the gap analysis questions that were already presented in their entirety in table 1 of the thesis.

Kuinka kauan olette olleet Graniten asiakas? *
alle vuoden
1-2 vuotta
3-5 vuotta
6-10 vuotta

Mitä Graniten palvelukokonaisuuksia käytätte? *
Valitse vaihtoehdot alta (voi valita useampia).
Verkkokoulutus (tietoturvan valmiskurssit, omat verkkokurssit)
Riskienhallinta (työn riskienarviointi, tietoriskit, ERM)
Poikkeamienhallinta (läheltä-piti, tapaturma, vaaratilanne ja turvallisuushavaintoilmoi-tukset)
Vaatimustenmukaisuus (katakri, ISO 27001, tietoturvatasot)

Millä sektorilla toimitte? *
Valitse alta vaihtoehto: yksityinen/julkinen

Minkä kokoinen yrityksenne / organisaationne on? *
Valitse vaihtoehto alta:mikro/pieni/keskisuuri/suuri

Minkälaisissa tehtävissä toimit yrityksessäsi?
Esim. ylin johto, riskienhallintapäällikkö, turvallisuuspäällikkö, tietoturvapäällikkö, työsuojelupäällikkö, IT-päällikkö)

Minkä asioiden koet olevan Graniten vahvuuksia tällä hetkellä?
Valitse vaihtoehdoista (voit valita useita) tai anna myös oma vaihtoehtosi. Voit myös kirjata tarkennuksia sivun alaosassa olevaan vapaatekstikenttään.
Asiakaspalvelu
Asiantuntemus
Helppokäyttöisyys
Hinnoittelu
Ketteryys
Luotettavuus
Monipuolisuus
Muu:

Minkä asioiden koet olevan Graniten heikkouksia tällä hetkellä?
Valitse vaihtoehdoista (voit valita useita) tai anna myös oma vaihtoehtosi. Voit myös kirjata tarkennuksia sivun alaosassa olevaan vapaatekstikenttään.

Asiakaspalvelu
Asiantuntemus
Helppokäyttöisyys
Hinnoittelu
Ketteryys
Luotettavuus
Monipuolisuus
Muu:

Kehitysehdotuksia palveluihin tai lisäominaisuuksia järjestelmään
Tähän voit kirjata kehitysehdotuksia palveluihimme tai esittää toiveita mahdollisista lisäominaisuuksista Graniten järjestelmään.

APPENDIX B: INTERVIEW TEMPLATE

Käyttöönottoon liittyvät hyödyt:

Mitkä olivat riskienhallintajärjestelmän hankkimisen tavoitteet?

Miksi valitsitte Graniten?

- Mitkä asiat ovat tärkeitä teille?

- Mitä huomionaiheita, tärkeitä kynnyskysymyksiä jne hankintaan liittyi teillä?

Oletteko saavuttaneet asettamanne tavoitteet?

Miten hyvin järjestelmän kustannukset ovat pysyneet sovituissa? (Onko tullut ylimääräisiä kustannuksia? Kustannus/hyöty suhde?)

Strategiset hyödyt: "Miten riskienhallintapalvelut edesauttavat strategiamme toteutumista? (Tietoa riskeistä ja niiden huomioimista / vastuiden jakaminen / vaatimustenmukaisuuden huomioiminen / Onko helpottanut strategian toteuttamista ja onnistumista?)"

Taloudelliset hyödyt: "Miten hyödyt näkyvät euroissa mitattuna? (Säästöjä riskien tunnistamisen kautta / prosessin helpottumisessa / raportoinnin tehokkuus / päätösten teon helpottuminen)"

Käytännölliset hyödyt: "Miten riskienhallintapalvelu helpottaa arjen toimintaa & sujuvoittaa toimintaa käytännössä? (Käsittelyn helppous / raportoinnin tehokkuus / tiedon saaminen päätöstenteon tueksi)"

Brändihyödyt: "Miten palvelu hyödyttää siinä, miltä näytämme asiakkaidemme silmissä ja julkisessa keskustelussa?"

Muita hyötyjä tai tuotettua arvoa liiketoiminnalle?

 Asiakastuki, asiakkuudenhoito, tuotekehitys

Asiakastuen toimivuus yleisesti, kehitysehdotukset? (Käytetyt mediat, Vasteaika? Kommunikoinnin selkeys? Asiakastuki ymmärtää ongelmien kuvauksen? Asiakas ymmärtää tuen ohjeet ja termit?)

Käyttöoikeuksien hallinta? Toimiiko riittävän selkeästi?

Kehitysideoiden vieminen tuotantoon? (tiedotus uusien ominaisuuksien etenemisestä + sen tärkeys itselle? Lomakemuutosten tekeminen, onko tiedetty milloin on tehty ja onko yleisesti hoitunut ongelmitta)

Moduulien sisältöjen räätälöinti? Miten prosessi toiminut, parannettavaa etenemisessä, tiedotuksessa jne?

Ohjeet käyttöön? Itseohjeistus, tietopankki? Koetteko pystyvänne ratkomaan myös itse eteen tulevia kysymyksiä? Minkälaisesta tuesta/ohjeistuksesta olisi apua?

Kehitysideat:

Lisäominaisuudet (mitä järjestelmästä puuttuu? Ominaisuudet, moduulisisältö)

Raportointi (miten voisi parantaa, mikä ei toimi, visualisoinnit, graafiset esitykset? Onko jotain hyödyllisiä mittareita joita ei ole ollenkaan?)

Optimoinnit (toiminnan nopeutus, käytön helpottaminen, työnkulun nopeuttaminen, onko huomattu osioita tai asioita jotka ovat hitaita toiminnaltaan tai hitaita käyttää tms?)

Palvelutuotanto (Uusien ominaisuuden ehdottaminen, tuotantoon vienti, prosessin eteneminen, tiedotus)