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BENEFIT REALIZATION PRACTICES AND PROJECT SUCCESS IN INFORMATION TECHNOLOGY PROJECTS

Master of Science Thesis

Examiner: prof. Miia Martinsuo
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ABSTRACT

SUVIANNA SYRJÄKARI: Benefit Realization Practices and Project Success in Information Technology Projects
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Keywords: benefit, benefit realization, benefit realization management, project stakeholders, IT project, IT project success

The traditional iron triangle project management success measurements: schedule, budget, and scope, are combined with benefit realization approach. A benefit is a desired outcome of a change, such as increased profit or competitive advantage. Benefits fulfill the understanding of project success by taking into account stakeholders and long-term aspects. A benefit realization management process is created to ensure the realization of desired benefits. A project can be successful even though it exceeded its schedule, budget or scope if it realizes the desired benefits.

This study is executed for the need of an IT company that strives to improve its project success and to fulfill the current understanding of benefit realization practices. The objective of this study is to understand how and when the business benefits are realized in an IT customer delivery project and what the crucial practices are for benefit realization. This study follows a constructive research approach. First, a theoretical framework was developed to guide the empirical study. After that, a case study of nine IT customer delivery projects was implemented by interviewing the central stakeholders of the projects.

This study creates a new understanding of desired benefits and benefit realization practices. The results revealed that there are common benefits for all stakeholders and role specific benefits for suppliers and customers. Benefit realization practices vary; generally, benefit realization can take place before, during and after a project. However, most benefits are achieved over a longer period of time and after several projects. Some benefits are crucial for the realization of another benefit. For each benefit realization practice, one role is responsible; thus, several roles are responsible for realizing project benefits. The empirical study discovers four crucial factors for benefit realization: the sales phase, the project roles and model, change management, and continuity. These factors ensure most of the benefits in IT customer delivery projects.

TIIVISTELMÄ

SUVIANNA SYRJÄKARI: Hyötyjen toteuttamisen käytännöt ja projektien onnistuminen IT-projekteissa
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Avainsanat: hyöty, hyötyjen toteuttaminen, hyötyjen hallinnan johtaminen, IT-projekti, IT-projektin onnistuminen, projektin sidosryhmät

Projektin hallinnan onnistumista mittaava perinteinen rautakolmio: aikataulu, budjetti ja laajuus täydennetään hyötyajattelulla, joka laajentaa käsityksen projektin onnistumisesta huomioimalla sidosryhmät ja pidemmän aikavälin. Hyöty on toivottu tuotos muutoksesta, esimerkiksi kannattavuuden tai kilpailukyvyn parantuminen. Hyötyjen hallinnan johtamisprosessi on luotu varmistamaan, että toivotut hyödyt realisoituvat. Projekti voi olla onnistunut, vaikka se ylittäisi aikataulun, budjetin tai laajuuden, jos toivotut hyödyt toteutuvat.

Tämä tutkimus on tehty IT-yrityksen tarpeeseen, joka pyrkii parantamaan projektien onnistumista ja ymmärrystä hyötyjen toteutumisesta. Tutkimuksen tavoitteena on ymmärtää kuinka ja milloin hyödyt toteutuvat IT-asiakastoimitusprojektissa ja mitkä ovat merkittävät käytännöt hyötyjen saavuttamiseksi. Tämä tutkimus on konstruktiivinen tutkimus. Aluksi ymmärrys hyötyjen toteutumisesta kartoitettiin kirjallisuuskatsauksella. Sen jälkeen tehtiin tapaustutkimus yhdeksästä IT-asiakastoimitusprojektista haastattelemalla projektien keskeiset sidosryhmät.

Tämä tutkimus tarjoaa uutta tietoa toivoituista hyödyistä ja niiden toteutumiseen liittyvistä käytännöistä. Tutkimustulokset osoittavat, että on olemassa yhteisesti toivottuja ja roolisidonnaisia hyötyjä toimittajalle sekä asiakkaalle. Hyötyjen toteutumiseen vaikuttavat käytännöt vaihtelevat. Hyödyt voivat toteutua ennen projektia, sen aikana tai sen jälkeen. Kuitenkin merkittävä osa hyödyistä toteutuu pidemmällä aikavälillä ja useamman projektin tuloksena. Osa hyödyistä on myös ratkaisevia muiden hyötyjen toteutumisille. Hyötyjen toteutumisesta on vastuussa useampi taho ja sen vuoksi hyödyillä saattaa olla eri vastuuhenkilöitä. Empiirisen tutkimuksen mukaan seuraavat neljä tekijät ovat merkittäviä hyötyjen toteutumiselle: myyntivaihe, roolit ja projektimalli, muutoshallinta ja jatkuvuus. Nämä tekijät varmistavat suurimman osan hyödyistä IT-asiakastoimitusprojektissa.

PREFACE

I started working for the target company at the beginning of my studies. The work has supported my studies and motivated me to learn more. Currently projects and thus project success are central parts of my job. This thesis provided me with an excellent opportunity to study project success in more depth, and to develop myself as a professional.

I would first like to thank my thesis supervisor and supporting colleagues from the target company. You have always had faith on me and motivated me to achieve the best results. I want also thank professor Miia Martinsuo who guided me during the thesis process. Lastly, I would like to thank my family and friends. I especially want to thank my grandparents Marja-Liisa and Karri Timgren, who supported me throughout my university studies. You were always there for me when I needed support. I want also to thank my other family members and friends who helped me and motivated me through the thesis process. Special thanks to my dog Becky who literally always sat next to me when I was writing my thesis.

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Suvianna Syrjäkari

CONTENTS

LIST OF FIGURES

LIST OF SYMBOLS AND ABBREVIATIONS

BRM	Benefit Realization Management
BM	Benefit Management
CSF	Critical Success Factor
PPM	Project Portfolio Management
KPI	Key Performance Indicator
ROI	Return on Investment

1. INTRODUCTION

1.1 Background

Research of the success of an information technology (IT) customer delivery project is a challenging field of study. Customer delivery projects are IT projects where an IT system is delivered to a customer company by a supplier. These projects have several stakeholders, thus the understanding of project success varies. Many researchers have studied how the success of an IT project should be measured (Agarwal & Rathod 2006; Ika 2009), and the scope of the success has changed over time (Ika 2009). Nowadays the traditional iron triangle, budget, time, and scope, project management success measurements are combined with the business benefit approach (Ika 2009, Serra & Kunc 2015). Benefits are positive outcomes of changes that create business value in the long run (Breese et al. 2015). Therefore, a benefit realization management (BRM) process is created to ensure that crucial benefits are realized (Ward et al. 1996; Farbey et al. 1999).

The scope of the benefit approach differs from traditional project management success by taking the project stakeholders into account. The dilemma of general project success has been that each stakeholder has their own interests, objectives, and needs in a project (Artto & Kujala 2007). The desired benefits are based on project outcomes expected by stakeholders, such as strategic goals or competitive advantages (Breese et al. 2015, Serra & Kunc 2015). Thus, the benefit approach creates a wider understanding of success, but it is often more complicated approach to define project success. The desired benefits vary according to projects, business areas, and between stakeholders, therefore there is no universal framework of project benefits. However, the delivery of benefits fulfills the understanding of success by creating a more diverse and long-term perspective for project success.

The problem of existing studies is the lack of general good practices to achieve the desired benefits (Päivärinta et al. 2007; Ashurst et al. 2008; Hellang et al. 2013). The benefit realization management (BRM) process is created to realize benefits (Ward et al. 1996; Farbey et al. 1999), but BRM literature does not identify how the practical realization is done. Several authors have studied benefit realization (Ward et al. 1996), however none of their studies have identified how the benefits are achieved. It has been noted that benefit realization often requires a change (Ward et al. 1996; Lin & Pervan 2003; Coombs 2015), but there are no studies of this particular change. This lack of understanding is also identified as a problem in IT customer delivery projects. These projects do not achieve desired benefits for the stakeholders, and because of this, projects tend to fail. As a conclusion, general good practices to achieve the desired benefits are unknown.

This study aims to understand how and when benefits are realized in an IT customer delivery project, and to identify crucial practices of benefit realization. The empirical study of good practices for benefit realization is carried out in a company that delivers IT solutions for customers. The target company is a big Nordic IT company with hundreds of ongoing customer delivery projects for private and public sector customers. This study focuses on a sample of nine projects, and considers both supplier's and customers' points of view to create a more comprehensive understanding of benefit realization practices. Therefore, this study takes four stakeholders into account: the customer's business managers, the customer's project team, the supplier's business managers and the supplier's project team. The target company and its customers have practical experience and information of how the benefits are realized in an IT customer delivery project. This crucial information of delivering success is partly tactical information that has neither been shared nor studied. The target company wants to improve the overall success of its projects; therefore this study is executed.

1.2 Research Objectives and Scope

IT markets are developing fast, and organizations have to be able to keep up with the changes. Therefore, in project business it is not enough for IT suppliers that projects are done on budget, on schedule and in scope. Projects have to support and make changes to respond to the changing environment, realize business objectives, execute strategy and deliver benefits (Keeys & Huemann 2017). Thus, the organizations can follow their respective strategies, remain competitive, expand on growing markets and increase their profitability. For customer companies, IT investments are a way to improve processes, create new opportunities and become more competitive. Therefore, the delivery of benefits is more crucial in the long run than a project on time and on budget. Benefit realization management ensures the most valuable objectives and closes the gap between current state and strategy (Serra & Kunc 2015). The realization of the desired benefits is the central part of achieving the change and responding to the change of the markets.

The objectives of this study are to understand how and when the business benefits are realized in an IT customer delivery project and to identify crucial practices for benefit realization. Therefore, this study conducts a literature study of IT project success, the common benefits in an IT customer delivery project, and the current understanding of benefit realization practices. An empirical case study is executed based on the identified benefits in the target company. The case study is implemented for nine customer delivery projects, and the empirical data are gathered by semi-structured interviews. Based on the literature and on empirical research, this study aims to answer the following research questions:

RQ1. How and when do the project stakeholders experience the realization of benefits, and who is responsible for the benefit realization?

RQ2. What are good benefit realization practices in IT customer delivery projects?

This study focuses on following four stakeholder groups: the customer's business managers, the customer's project team, the supplier's business managers and the supplier's project team. An IT customer delivery project may also include other stakeholders, such as subcontractors, sponsors and end users, but this study excludes all other stakeholders except the listed four. The supplier, customer and project team are standard and crucial stakeholders of an IT customer delivery project (Lehtimäki 2006), and hence this study creates a good practical overview of benefit realization in an IT customer delivery project.

The benefit realization approach is rather new in literature (Farbey et al. 1999). Currently, BRM and IT project success literature is clearly lacking studies on benefit realization practices (Päivärinta et al. 2007; Ashurst et al. 2008; Hellang et al. 2013). The target company wants to improve the long-term success of projects. Thus, this study provides exceptional value for both current research and for the target company.

1.3 Structure

The research methodology of this thesis is constructive. This study is executed for the needs of the target company, but in addition, the need for the research is identified based on the existing literature. A literature study is carried out to create a base for the empirical study by identifying the common benefits and current understanding of benefit realization. A case study of nine projects is implemented to create a construction that is presented to the target company's management. The management evaluated the validity of the construction.

First, a literature study of project success and the BRM is carried out in the theoretical background chapter. Its first subchapter defines the core concept of this study: benefit realization management, IT customer delivery project and project success. The objective of the subchapter is to create understanding of the topics on a general level. The next subchapter focuses on benefit delivery in an IT project. The BRM process in an IT project is presented and the phases of the BRM process are defined. This study focuses on the first two phases: identifying benefits and realization of benefits, and therefore these phases are described more deeply in the following subchapters. First, the IT project benefits are identified and after that the realization of benefits is described. The next subchapter focuses on empirical studies of BRM. A sample of empirical studies is analyzed and general conclusions are made. The current studies of benefit realization

practices are presented and the need for this study is identified. The last subchapter of the theoretical background chapter is a conclusion, where the value of this study is presented based on the existing literature.

The next chapter presents the research methodology and research methods, and defines the nature of the study. The nine customer delivery projects for the study were chosen by the IT company's business units, subsequently the data were gathered through semi-structured interviews with the project stakeholders. A note framework was created for the analysis of the data. The framework allows to compare the results between benefits and stakeholders. The data collection and analysis are discussed more deeply in the subchapters of the research methods chapter.

The results are presented in the fourth chapter. First the results are presented on a general level, which shows that the understanding of project success varies between stakeholders. The results of each identified benefit are presented separately in subchapters and realization practices are identified. Practices vary between benefits, but there are some practices and phases that are important for most of the benefits. After that, the framework of benefits and benefit realization is created based on the results. The desired benefits are divided between stakeholders, and the identified connections between benefits are described. Realization practices also vary between benefits, but a general conclusion is made based on the most common phases of benefit realization. The recommendations for the target company are presented based on the created construction. The management of the target company evaluated the construction of this study and the recommendations. Based on that evaluation, the validity of this study is confirmed.

The discussion chapter discusses the findings and how they support the current literature. The findings by other authors are related to the results of the case study. This study mostly supports the findings by other authors, but there are also some contradictory observations. The research questions are answered and the objective of the study is met in the discussion. The conclusion chapter evaluates the achievements of the study and its limitations. Lastly, as a conclusion, future research topics are proposed.

2. THEORETICAL BACKGROUND

2.1 Core Concepts of the Study

In the concept of project business, benefits are expected project outcomes that generate value for the project stakeholders (Breese et al. 2015). Generally, benefits are associated with intangible, uncertain and longer terms of success (Ward et al. 1996; Shenhar et al. 2001; Lin & Pervan 2003). Expected benefits can be realized during or after a project and are linked with wider concepts, such as organizational goals (Lin & Pervan 2003; Päivärinta et al. 2007). The desired benefits vary between projects, business areas and stakeholders; therefore there is no universal framework for project benefits. Each stakeholder and business area have their own goals, needs and expectations of project outcomes (Artto & Kujala 2007). In a customer delivery project, a supplier aims to make profitable business that supports the company's strategic goals, while a customer is looking for return on investment and new competitive advantages (Shenhar et al. 1997; Atkinson 1999; Lin & Pervan 2003; Serra & Kunc 2015). Therefore, the evaluation of overall project success also depends on expected benefits.

The following subchapters define the core concepts of this study. First benefits and benefit realization management (BRM) are defined on a general level. After that, IT projects are defined. Lastly, project success and its linkage with benefits is described.

2.1.1 Benefit Realization Management

Benefit Realization Management is a rather new method in the field of project management. The term benefit management (BM) was first used in the late 1980s and early 1990s (Farbey et al. 1999). Since then the terminology of the method has varied (Breese et al. 2015). This study uses the term "Benefit Realization Management", since the purpose of the process is to realize benefits. Table 1 summarizes the first handbook approaches to BRM and compares the methods' names, definitions of benefit, definitions of BRM process and business focuses.

Table 1. *The Context of Benefit Management Process in different decades (adapted from Breese et al. 2015)*

Author	Name of Method	Definition of Benefit	Definition of Benefit Management Process	Business Focus
Remenyi et al. 1997	Active benefit realization	A combination of issues that deliver business value for several stakeholders	Active benefit realization focuses on delivering maximum value of an IT investment	IT investment
Thorp 1998	Benefit realization approach	An outcome (nature and value) that is advantageous for an organization	Business oriented framework that includes processes, techniques and instruments to optimize benefits	Change through IT
Bradley 2006	Benefit realization management	A positive outcome of a change for stakeholders	Process of organizing and managing business to achieve benefits from investment in change	Change projects and programmers
Ward & Daniel 2006	Benefit management	Different types of benefits from IT	Process where benefits from the use of IT are organized and managed	IT investments
Payne 2007	Benefit management	Measurable improvements of outcomes	A process that defines and ensures potential benefits of a project	Change projects and programmers
Melton et al. 2008	Project benefit management	Related to the transition of strategic goals	A business process intended for projects with business impact	Engineering projects within process industries

As Table 1 shows, the terminology and definition of the BRM method have varied. Generally, the term "benefit" is widely used in the literature, and it has several meanings in English (Breese et al. 2015). Occasionally, the term benefit is confused with the meaning of value (Breese 2012; Breese et al. 2015). Despite that, recent literature seldom defines the term benefit in the context of BRM (Coombs 2015; Serra & Kunc 2015; Badwei 2016). According to Table 1, benefit is a positive outcome of a change (Breese et al. 2015). The definition of BRM processes also varies based on the business focus. Table 1 shows a few different business focuses, but the authors have mainly linked BRM with IT. In addition, all approaches focus on how the identified benefits can be realized, and hence how business value could be created (Breese et al. 2015).

The BRM process can be divided into identification, planning, monitoring, realization and future benefits phases (Ward et al. 1996). All phases are described in subchapter 2.2.1. Generally, this study focuses on how benefits are realized and good practices for benefit realization. Ashurst et al. (2008) defined practice as "set of socially defined ways

of doing things, in a specific domain, to achieve a defined – and generally measurable – outcome, and create the basis for responding appropriately to individual circumstances". Hence, this study only focuses on good practice within its scope.

2.1.2 IT Customer Delivery Project

Project business is business that is related to projects and seeks to achieve the objectives of a company or several companies (Artto & Wikström 2005). In project literature, Artto and Kujala (2008) have divided project business related research into four main categories: management of a project, management of a project-based firm, management of a project network, and management of a business network. The framework divides the research approaches based on the number of firms and projects being studied. Both the firms and the projects are considered as organizational entities, and in business contents they can be related to each other as well as to other firms and projects (Artto & Kujala 2008). This study focuses on management of an IT project in a project-based firm.

Nowadays, projects are widely used in different context, industries and purpose. Project is defined as an entity of multiple task to execute a change in budget, schedule and scope (Lewis 2002; Artto & Kujala 2008). In turn, quality, risks and resources are attributes of a project that impact on its goals (Schwalbe 2015). Projects are temporary organizations that have a defined beginning and end and predefined goals to create unique products, services or results (Artto & Kujala 2008; Schwalbe 2015). Projects may have several stakeholders, but a traditional IT project consist of three standard stakeholders: supplier company, project team and customer company (Lehtimäki 2006). These IT projects are called IT customer delivery projects, since there is a supplier that delivers the solution for a customer. There are also companies that execute IT projects by themselves if they have the needed competence for delivering the project. However, this study focuses on IT customer delivery projects, where the target company is the supplier.

Figure 1 presents the standard stakeholders of an IT customer delivery project. The stakeholders are divided into customer and provider organization according to Lehtimäki (2006). Both parties may have their own project teams that are executing the project. The project manager (PM) is in the middle of these two teams but similarly both sides may have their own project managers. The business management represents the interest of the customer and supplier organizations. In addition, there are users and customer support that will be using and supporting the system after the project ends. These layers may include subcontractors on both sides that are similarly stakeholders of the project. In addition, all stakeholders have their own interest in the project (Lehtimäki 2006).

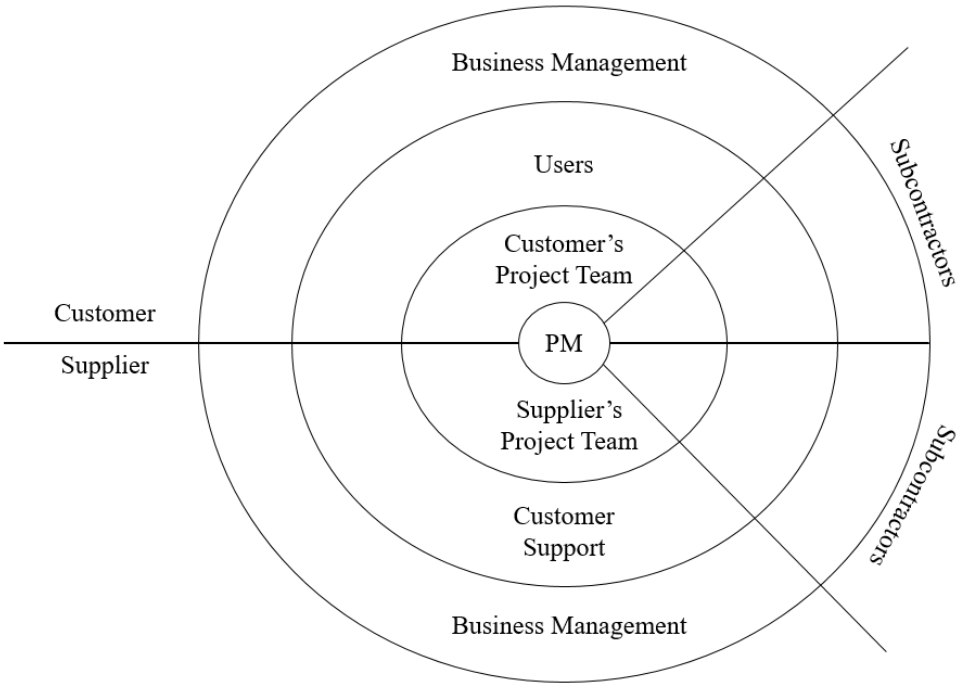

Figure 1. *The Stakeholders of IT Customer Delivery Project*

IT projects differ from standard projects through their characteristics and project management. The diversity of IT projects' technology, industry and resources makes their management more complex. Nowadays, IT projects exist in all industries and involve all business functions. Therefore, IT projects require a wider range of knowledge, competences and skills. Different IT skills are also necessary since technologies vary, and different technologies can be combined. As a result, an IT project team may include a wide range of different professionals. Hence, the communication within an IT project team might be complicated by technology professionals not understanding all the other technologies. (Schwalbe 2015).

During the past years, IT technologies have developed fast and businesses have become more complex. Thus, the requirements of an IT project are not commonly known in the beginning, and the scope may change during the project. Therefore, IT projects are known first from agile projects, where the solution and requirements evolve during the project, and the project is executed through iterative and incremental development (Schwalbe 2015). Agile project management methods such as scrum is done in defined parts, in so-called sprints. These agile development methods enable a flexible scope and to prioritize features (Schwalbe 2015). Despite that, the traditional waterfall method is still used in IT projects that are suitable more fixed scope and budget (Schwalbe 2015).

Recently IT projects have faced new trends, such as globalization, outsourcing and virtual teams (Schwalbe 2015). IT projects can be executed globally, and the team can include people from around the world. These new characteristics enable more diverse project teams, skills and projects across the borders. Outsourcing may enable cost savings and companies can focus on their core business. However, working in virtual teams and global projects requires a new kind of management. These characteristics make IT projects unique (Schwalbe 2015).

2.1.3 Project Success

Project success is often defined based on success measurements (Shenhar et al. 2001). However, these measurements vary in different areas of project business research (Artto & Kujala 2008). In addition, various parties in the environment of the project will easily make their own judgments about the project's execution and achievements (Morris 1983). Therefore, the dilemma of overall project success is related to the wide range of project stakeholders. Each stakeholder has their own interests, objectives and needs in a project, which makes project management and thus benefit management even more complicated (Artto et al. 2008). Indeed, it is impossible to define universal measures for overall project success. The measures may be contradictory if all stakeholders are taken into account. In addition, projects are different and the measures of success can sometimes be project specific (Wateridge 1998).

Project success is regularly defined in two phases: ex ante assessment, known as appraisal and ex post assessment, known as evaluation (Zwikael & Smyrk 2011, p.39; Serra & Kunc 2015). As indicated by the names, appraisal is done before the project and evaluation at the end of the project. The appraisal phase defines the expectations and analyses the business case to support the approval or rejection of the project (Zwikael & Smyrk 2011, p.39; Serra & Kunc 2015). Managers often choose projects based on criteria such as strategic fit, probability of success, availability of resources, and market and project objectives (Englund & Graham 1999). It is important that approved projects have a clear scope, because otherwise the defined expectation may become fuzzy (Milis & Mercken 2002). Based on the decided success criteria, the evaluation phase defines whether the project was a success or a failure (Serra & Kunc 2015)

From the late 90s until today, projects have commonly been evaluated based on schedule, budget and scope (Wateridge 1998; Martinsuo & Lehtonen 2007; Serra & Kunc 2015). These three success measures are rather narrow points of view of the project execution. A project can be successful even though it does not meet its schedule, budget or scope (Wateridge 1998; Bryde 2005). Several literature studies have identified a benefit approach as an essential aspect for project success (Atkinson 1999; Bryde 2005 Martinsuo & Lehtonen 2007; Ika 2009; Serra & Kunc 2015). Benefit approach measures project

success in the longer term (Lin & Pervan 2003) by evaluating how well the desired benefits are achieved. Therefore, the benefit approach can be associated with the business case, where projects are defined based on desired benefits (Lehtimäki 2006). The benefit approach takes stakeholders into account and creates a wider understanding of project success.

Serra and Kunc (2015) divided project success measures into two approaches, presented in Figure 2, which have also been identified by other authors (Cooke-Davis 2002): project management performance and project success as delivery of the benefits to the business, stakeholders and customers.

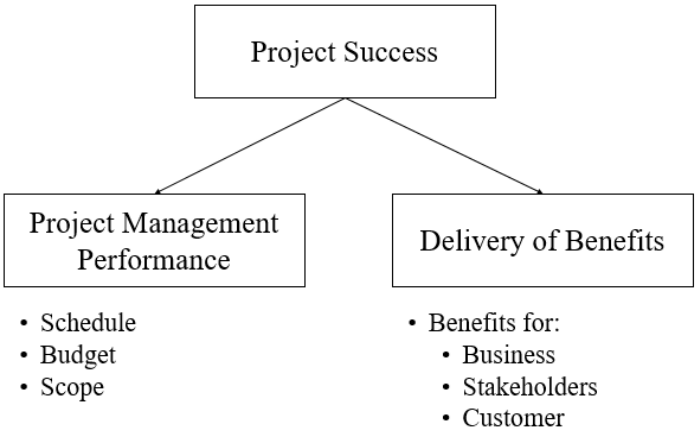

Figure 2. *Project Success Division (adapted from Serra & Kunc 2015)*

Project management performance focuses on the accomplishment of a project within the defined budget, time, and scope, whereas benefits are defined as improvements gained through positive change that have fulfilled the organizational objectives (Serra & Kunc 2015). Project management performance measures are considered as short-term criteria, whereas benefits may serve longer-term objectives (Baccarini 1999).

2.2 The Delivery of Benefits in IT Projects

The BRM process is created to realize and optimize benefits (Breese et al. 2015) by identifying, realizing, evaluating and maintaining the benefits (Ward et al. 1996). This study aims to understand how benefits are realized; thus, it focuses on the identifying and realizing phases. The following subchapters first describe the BRM process on a general

level, subsequently the benefits for IT customer delivery projects are identified and aspects that impact on the benefit realization are defined.

2.2.1 Benefit Realization Management Process

Depending on the author, the BRM process includes four to five phases: identification, planning, monitoring, realization and future benefits (Ward et al. 1996; Lin & Pervan 2003; Bennington & Baccarini 2004). Figure 3 illustrates the common way to picture the BRM process and its connections between phases.

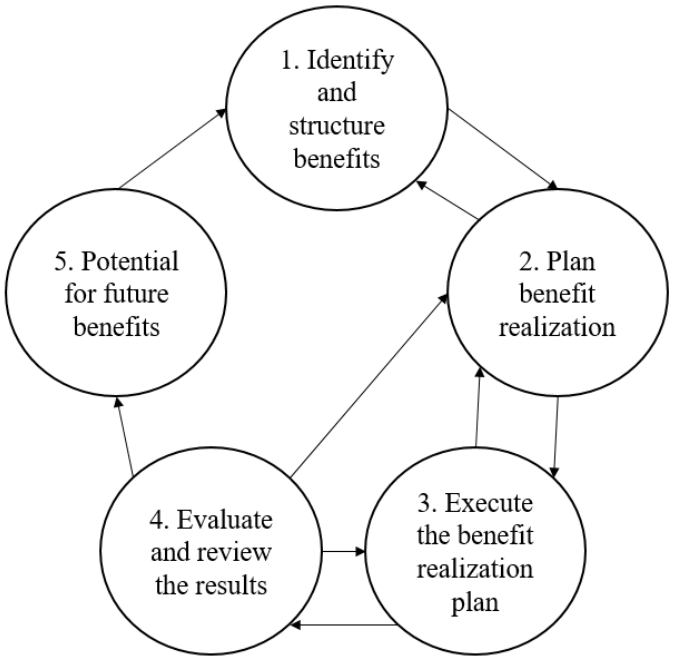

Figure 3. *Benefit Realization Process (Ward et al. 1996)*

Identification of the benefits is the first part of the process where the benefits are identified and connected to the technology and the business effects, such as business objectives (Ward et al. 1996). The scale, money, timing and responsibilities are defined for each benefit (Tiernan & Peppard 2004). In business, organizations may use different methods to identify relevant benefits, such as checklists, databases, workshops and interviews (Bennington & Baccatini 2004). According to Bennington and Baccarini (2004), the identification of benefits can be difficult when the benefits might change over time and the benefits are intangible and complex. Despite that, it is important that the project has

a clear scope and expectations (Milis & Mercken 2002). The next phase "Planning the benefit realization" is closely connected to the first phase. An organization has to plan how the identified benefits are achieved (Bennington & Baccarini 2004). As previously stated, benefits are positive outcomes of changes. The realization of benefits requires organizational change (Ward et al. 1996; Farbey et al. 1999; Lin & Pervan 2003; Coombs 2015), thus BRM is connected to change management. Following the planning phase, the plan is executed with planned actions and business changes (Ward et al. 1996). When the plan has been implemented, the next phase is the evaluation and review of the results. The benefits have to be measured to be able to determine whether the desired benefits have actually been realized (Ward et al. 1996). There are several views on how benefits should be measured. Ward et al. (1996) suggest before and after measures to provide useful information of the results. According to Bennington and Baccarini (2004) the benefit measures should be part of a company's key performance indicators (KPIs). Lastly, the BRM process contains the review of the future benefits. This phase considers possible future benefits on a larger scale and evaluates the whole process in terms of lessons learned (Ward et al. 1996). Each phase is connected to the other phases, and together the phases create the cycle of the BRM process.

2.2.2 Benefits of an IT Project

As previously stated, an IT project can be a successful even though it exceeds its schedule, budget or scope (Wateridge 1998; Bryde 2005). The desired benefits fulfill the understanding of success by taking stakeholders and longer-term aspects into account (Atkinson 1999; Lin & Pervan 2003; Ika 2009; Serra & Kunc 2015). Literature has identified different benefits that vary between stakeholders (Shenhar et al. 1997; Wateridge 1998; Atkinson 1999; Agarwal and Rathod 2006; Thomas and Fernandez 2008; Serra and Kunc 2015). There are several benefit approaches, where authors have divided the desired benefits into different categories. This study takes the following stakeholders into account: the customer's business managers, the customer's project team, the supplier's business managers and the supplier's project team. However, this study divides the benefits into customer, the supplier's business and the supplier's project team benefits, since literature has not clearly identified different benefits for customer business and project benefits. Table 2 summarizes how other authors have divided the benefits, compared to the categorization of this study.

Table 2. *Different Ways to Categorize Benefits*

Author	Categorization
This study	Benefits of supplier's business, supplier's project team, and customer
Atkinson (1999)	Direct and indirect benefits
Bennigton & Baccarini (2004)	Efficiency and effective benefits
Westerveld (2003)	Client, project personnel, user, contracting partners and stakeholder benefits
Ika (2009)	Benefits to stakeholders and benefits to project personnel
Serra & Kunc (2015)	Business, client and stakeholder benefits
Badwei (2016)	Financial and non-financial benefits

Similar to Westerveld, Ika, Serra and Kunc, this study divides the benefits based on the stakeholders. The term "stakeholder" includes all parties that have an impact on the project, such as users, customer and project staff (Atkinson 1999). The authors in Table 2 also identified other success criteria for projects; similarly, this study identified project management success.

This study introduces the common success criteria for IT projects in Table 3, based on the chosen categorization of benefits. The framework is created based on seven studies that have identified benefits. Most of the authors have identified the desired benefits in a context of IT projects, and thus the desired benefits for customer, supplier and project team (Shenhar et al. 1997; Wateridge 1998; Atkinson 1999; Agarwal and Rathod 2006; Thomas and Fernandez 2008; Serra and Kunc 2015). Shenhar et al. (1997) identified 13 measurements for project success based on literature, and the empirical study of 80 projects proved that all identified measurements are relevant for project success. These benefits are clearly divided into customer and supplier benefits (Shenhar et al. 1997), thus the benefits were easily adapted to the categorization of the benefit framework. Wateridge (1998) identified nine common success criteria for IS/IT projects based on a questionnaire that was completed by 132 respondents, as well as on follow-up interviews for 12 projects. The success criteria were not divided into categories, therefore the benefits were divided into the customer's, the supplier's and the project team' benefits based on other studies that have identified the same benefits. The study by Atkinson (1999) is a well cited literature study of IS/IT project success criteria. The study identified benefits for suppliers' organizations and for stakeholders (Atkinson 1999). The framework of benefits in Table 3 only takes the benefits that are relevant for customer, supplier or project team into account, therefore benefits for other stakeholders, such as the social and environmental impact or the contractor's profits are not included in the framework.

Agarwal and Rathod (2006) studied IT project success between different stakeholders and conducted an empirical study with 105 participants, using a questionnaire. The study mainly focused on iron triangle measurements, but also identified some benefits that were considered as customer benefits by Shenhar et al. (1997). A study by Thomas and Fernandez (2008) identified the delivery of benefits as an individual success criterion for an IT project. However, the study also identified other success criteria that are considered as benefits by other authors. An empirical study by Thomas and Fernandez investigated 36 companies from different industries and identified 13 success criteria for IT projects. Serra and Kunc (2015) identify and discuss success criteria based on literature. The empirical study validates the success criteria based on 331 respondents, mainly project managers but also project governance and sponsors (Serra and Kunc 2015). In addition, the framework of benefits includes results of one study that focuses on IT investment (Lin and Pervan 2003). These benefits are considered as customers' benefits. Lin and Pervan (2003) conducted a study with 35 participants that identified some common IS/IT investment benefits.

The categorization of benefits was done based on the categories and available information of the benefits. There is large amount of benefits that have been identified. According to the Pareto principle, the focus should be on the few crucial activities, rather than on other more trivial ones. The few essential benefit measurements will better guide the project to success. Therefore, the listed benefits are more generic, in order to cover the benefits that are closely connected. The third column in Table 3 summarizes the covered benefits and the used terminology.

Table 3. *Success Criteria Identified for the Core Stakeholders in Projects*

Success Criteria	**Identified by**	**Used Terminology**
Iron triangle	Shenhar et al. 1997; Wateridge 1998; Atkinson 1999; Lin & Pervan 2003; Agarwal & Rathod 2006; Thomas & Fernandez 2008; Serra & Kunc 2015	Scope, budget, time
Customer		
ROI	Lin & Pervan 2003; Serra & Kunc 2015	Cost savings
Competitive advantage	Lin & Pervan 2003	Process efficiency
Fulfilled business needs	Shenhar et al. 1997; Wateridge 1998; Shenhar et al. 2001; Lin & Pervan 2003; Agarwal & Rathod 2006; Thomas & Fernandez 2008; Serra & Kunc 2015	Priorities of a specific project, satisfying information needs, expected outcomes, solving customer's problem, meeting requirements, fulfilling customer needs, achieving the purpose
Customer satisfaction	Shenhar 1997; Shenhar et al. 2001; Agarwal & Rathod 2006; Thomas & Fernandez 2008	Customer satisfaction, happy customer
Efficient use of the system: user satisfaction and fulfillment of the business purpose	Shenhar 1997; Wateridge 1998; Atkinson 1999; Lin & Pervan 2003; Agarwal & Rathod 2006; Thomas & Fernandez 2008; Serra & Kunc 2015	Customer satisfaction, happy customer, customer is using the product, actually used by the customer, satisfaction of user's needs, satisfying information needs, expected outcomes, meets requirements, functional & technical requirements
Supplier's Business		
Increased profit	Shenhar et al. 1997; Aktinson 1999	Improved efficiency & effectiveness, increased business results
Strategic goals	Atkinson 1999; Serra & Kunc 2015	Strategic organizational objectives, project goal
Organizational learning	Atkinson 1999	
New sales	Shenhar et al. 1997; Wateridge 1998; Thomas & Fernandez 2008	Commercial success, larger market share, creating new markets, business continuity, new innovations & products, new technology, a new line of product
Supplier's Project Team		
Professional learning	Shenhar et al. 1997; Atkinson 1999	New technology
Team satisfaction	Wateridge 1998; Thomas & Fernandez 2008	Happy team, satisfaction of stakeholders

As Table 3 shows, all seven authors identified the iron triangle as relevant success criteria for projects. In addition, the terminology used shows that the benefits vary in studies and that there are no dominant benefits that are commonly identified. Although some benefits have slightly different meanings, the identified benefits cover them on a generic level. Table 3 creates a framework of 12 success criteria.

The studies of benefits have generally identified more benefits for customers, which can also be identified in Table 3. Five customer benefits are summarized: ROI (return on investment), competitive advantage, fulfilled business needs, customer satisfaction and two benefits for system users: user satisfaction and fulfilling the business purpose. These user aspects are generally combined as the efficient use of the system. The system will not be used if the users are not satisfied and it does not meet the requirements.

Supplier's business is based on its projects. Therefore it is rather obvious that projects are expected to be profitable, follow strategy, support organizational learning and create new sales. Project profitability is crucial for project business, and in the long run increasing the profitability level is the desired outcome of projects (Shenhar et al. 1997). This can be achieved through improved efficiency, effectiveness or business results, therefore these benefits are combined in Table 3. Strategic goals summarize the benefits regarding strategy and organizational level goals. New sales include several benefits, but generally all benefits are targeting new projects. They might be achieved through commercial success, new products or technology, new markets, or continuity with current customers.

Project teams are a central part of IT projects, thus it is important that the team members remain satisfied and the projects support their professional learning. IT technology is developing fast (Schwbel 2015), hence it is in the interest of the company as well as the team members that the projects offer opportunities to develop their skills and competences. Team satisfaction can be created from various attributes, but generally literature states that teams have to be happy in projects (Wateridge 1998; Thomas & Fernandez 2008).

2.2.3 The Realization of Benefits in IT Projects

Achieving benefits is not as easy as delivering project management success. The iron triangle only focuses on a project, whereas the delivery of benefits takes stakeholders into account (Serra & Kunc 2015). A project may have several stakeholders as well as desired benefits. Therefore, the delivery of benefits is much more complicated. Project management success has clear goals and predefined changes, however, the delivery of benefit requires second order control where the goals and methods may vary over time (Cooke-Davis 2002). Lin and Pervan (2003) have listed several reasons why benefits are not realized:

- During project implementation, the focus is executing the project according to the plan.
- Intangible benefits are not taken into account in decision making.
- Organizations' cultures do not commonly support both aspects monitoring and implementing.
- After a project, the benefits are difficult to evaluate.
- A proper post-implementation review of benefits costs too much.
- Organizations do not adapt IT.

Benefits are often realized through changes (Ward et al. 1996), but a project may require several changes to achieve all desired benefits. To execute a change, an organization must have or develop benefit delivery competences and capabilities (Ashurst et al. 2008). In addition, there are internal as well as external factors that may influence the realization process, such as changes in the technological environment and government regulations (Smith et al. 2008).

The evaluation of project management success is traditionally done after the project ends. However, project benefits may be realized long afterwards (Agarwal & Rathod 2006). Hence, the delivery of benefits cannot be evaluated in its entirety immediately after the project. Similarly, the study by Shenhar et al. (2001) shows that the iron triangle aspect is only relevant right after the project, however the judgment of the benefit related success is develops over a longer period of time. Therefore, the delivery of benefits is a long process that may require changes to be able to take all stakeholders into account.

2.3 The Empirical Studies of Benefit Realization Management

The literature on BRM has developed during last decades (Farbey et al. 1999). The following subchapters summarize the current state of the empirical studies of BRM. The last subchapter focuses on the empirical studies of benefit realization and hence covers the current literature of the scope of this study.

2.3.1 Findings on Benefit Realization Management in IT Projects

The BRM method is rather new, therefore the literature approach is narrow. Table 4 summarizes a broad sample of BRM literature from the field of project business. The sample only includes literature with the main object to expand the understanding of BRM in the concept of IT projects. The second column of the table summarizes the research

method and the third column includes the very key finding of the paper. The last columns define what kind of IT projects are studied in each paper, IT investment or IT customer delivery project.

Table 4. *Key Findings from Previous Empirical Research on Benefit Realization Management*

Author	Survey	Key Findings	IT Investment	IT Customer Delivery Project
Ward et al. 1996	Survey questionnaire for top and large cross-section of UK industry.	Current BRM methods do not ensure the identification and realization of benefits.	x	
Lin & Pervan 2003	Survey for CIOs of 35 large Australian organizations.	Benefit measurements, allocation of responsibilities, formal methodologies and reviews creates value.	x	
Bennington & Baccarini 2004	25 IT project managers from 25 Australian organizations were interviewed.	PMs tends to prefer managing deliverables and efficiency benefits (reduce costs). The benefits are not commonly part of KPIs.	x	x
Päivärinta et al. 2007	Delphi study of 28 experts from Norwegian municipalities.	Identifies critical issues of adapting BRM in Norwegian municipalities.	x	
Ashurt et al. 2008	Case study of 25 IT projects from different industries, where project document is reviewed and project managers are interviewed.	Practices that contribute to the effective achievement of benefits from IT investment projects are not used.	x	x
Schwabe & Bänninger 2008	Interviews of senior managers from 31 large companies of the Swiss financial industry.	BM is considered as a method to support project proposals rather than optimize benefits.	x	
Smith et al. 2008	Survey for 69 IT project managers in South Africa.	BRM is rarely applied in IT projects and there is a need for clarification for identifying and realization of benefits.		x
Doherty et al. 2012	Semi-structured interviews of public organization's representatives.	Success of a system development project should be measured in terms of its ability to deliver meaningful benefits.	x	
Chih & Zwikael 2015	In-depth interviews with 15 senior managers in Australia.	Suggestion of seven criteria for benefit appraisal and four factors that improve the realization of benefits.	x	
Coombs 2015	Case study of the city council in UK where data was gathered through a document review and interviews.	Benefits are not realized since there is a lack of attention to IT-enabled organizational change.	x	
Serra & Kunc 2015	Quantitative questionnaire (331 respondents) for project governance, sponsorship, management and other roles in the UK, the US and Brazil.	BRM has a positive impact on project success when creating strategic value for the business.	x	x
Badwei 2016	200 respondents to online questionnaire	BRM has less significant impact on project investment success than PM practices. Together BRM and PM will increase the probability of project success.	x	x
Marnewick 2016	Interviews with 33 organizations from the Netherlands and South Africa to analyze the adaption of BRM process.	Organizations are using BRM but the promised benefits are not realized.	x	

The empirical studies mainly took place in the 21st century; the methods vary, but are mostly case studies, surveys or interviews. Key findings from those studies are very general, and identify the need for further research. Basically, the table shows that the BRM literature is a new field of research.

Benefits realization management was originally created for the IT industry, but was later applied to other industries as well (Badewi 2016). Table 4 shows that still today, the BRM literature focuses on IT projects and investments, even though the industries may vary. In addition, the focus of the BRM literature is clearly on IT investment, which is the customers' perspective in customer delivery projects. Hence, such studies focus on benefits arising from the invested IT. Only a few authors have applied BRM in a context that can be related to overall IT customer delivery projects (Bennington & Baccarini 2004; Ashurst et al. 2008; Smith et al. 2008; Serra & Kunc 2015), which is the scope of this study. For instance, Ashurst et al. (2008) studied BRM practices in the context of IT customer delivery project, although the focus is on benefits for customers.

There are no BRM studies that clearly focus on customer deliveries and take into account the delivery of benefits for the customer's business, the customer's project team, IT system supplier and the supplier's project team. However, authors have identified benefit realization in a context of project success that can be applied in the study of customer delivery (Shenhar et al. 1997; Atkinson 1999; Cooke-Davis 2002). Despite that, BRM literature is lacking studies of customer delivery projects. In turn, articles on business change investment provide the customers' point of view in customer delivery projects. Generally, all findings regarding the BRM process are relevant for this study. Hence, this study considers diverse articles with aspects of benefits.

2.3.2 Findings on Benefit Realization Practices

The realization of benefits is a crucial part of the BRM process. Despite this fact, literature lacks actual practices for realizing the desired benefits (Päivärinta et al. 2007; Ashurst et al. 2008; Hellang et al. 2013). Authors of BRM literature have acknowledged that benefit realization requires a change, for instance in how business practices are performed or information is used (Ward et al. 1996; Farbey et al. 1999; Ashurst et al. 2008), and the realization may take time (Shenhar et al. 2001; Agarwal & Rathod 2006). The change may also deliver negative outcomes, such as requirements for additional costs or skills (Serra & Kunc 2015). However, there is no empirical evidence of changes nor of change practices that realize benefits. Even though change is a central part of the realization phase, current BRM literature has not clearly connected the BRM process with change management.

A study by Dupont and Eskerod (2016) suggests that the role of project benefit manager should be assigned, to ensure the realization of benefits in the project (Dupont and Eskerod 2016). The empirical case study by Dupont and Eskerod (2016) shows that the line managers of the field are suitable for the position of project benefit manager, since they have the required competences and knowledge for the implementation of benefits. Despite that, the study does not consider other possible roles for the position.

Ashurst et al. (2008) studied general BRM practices in IT customer delivery projects. The study includes practices from all BRM phases, and thus also realization practices. The practices are divided into benefit planning, delivery and review practice (Ashurst et al. 2008), whereby the delivery practices are mainly focused on the realization of benefits. Based on literature, Ashurst et al. (2008) identified the following eight delivery practices:

- Establish an adaptive project life-cycle that enables a change
- Execute actively the needed business change
- Involve stakeholders
- Specify how work and organizational design have to change
- Benefit-driven trade-offs
- Benefit-driven risk management
- Organizational change
- Training and education focused on benefit delivery

However, the empirical study of 25 IT customer delivery projects showed that the use of these practices is very low or nonexistent (Ashurst et al. 2008). Also, other studies show that the use of BRM practices is low in actual IT projects (Smith et al. 2008). In addition, the practices identified by Ashurst et al. remain on a very generic level, and therefore do not depict how benefits are practically realized. As a result, the study suggests further research of benefit realization tools, mechanisms, and practices (Ashurst et al. 2008).

The study by Serra and Kunc identified practical outlines for realization phases; the realization is ensured through the integration of project outputs and monitoring of the outcomes after the project ends (2015). These outlines were identified based on literature, and the empirical study proved that the identified practices had a positive impact on overall project success (Serra & Kunc 2015). The empirical study was done by survey, and about 69% of the responders were considering possible customer delivery. However, the empirical study does not define how a specific benefit can be realized.

Badwei (2016) more practically identified that benefit realization requires a business case, periodical benefit audits and a responsible person for realizing the benefits. The reliability of these practices was tested but no actual realization practices were identified. However, these practices outline how actual benefit realization practices can be managed.

Another empirical study by Cooke-Davis (2002) identifies that mutual co-operation between project and line management will improve the delivery of benefits. The study was based on 70 multi-national and national organizations, and aimed to study success factors for IT projects (Cooke-Davis 2002); despite this only one factor was identified for benefit realization and it does not define how benefits are realized.

Even IT investment-focused BRM literature lacks actual practices and techniques of realization. Ward et al. (1996) studied the ability of organizations to realize benefits, and thus how to ensure that benefits are managed. As a result of the survey of 60 organizations, the current methods ensuring benefit realization were stated to be far from satisfactory (Ward et al. 1996). The purpose of the literature study by Hellang et al. (2013) was to explore practical methods for benefit realization. However, the findings of the study remain on a generic level and the lack of empirical evidence of realization practices was identified (Hellang et al. 2013).

Literature of project success has empirically studied critical success factors (CSFs) that impact directly or indirectly to the project success (Cooke-Davis 2002). Cooke-Davis mainly identified CSFs as supporting factors for project management success (2002). However, there is empirical evidence that benefit realization practices have a positive impact on project management success (Serra & Kunc 2015). Hence, it is not excluded that CSFs can have positive impacts on benefits. Even though CSFs are sometimes project specific, Pinto and Slevin (1987) identified the following nine common CSFs:

1. Goals are defined
2. Competent project manager
3. Competent project team
4. Support from top management
5. Sufficient resource allocation
6. Adequate communication channels
7. Control mechanism
8. Feedback capabilities
9. Responsiveness to client

The CSFs are mostly connected to general project management practices, since they aim to achieve project management success. Benefit realization practices are organizational changes (Ward et al. 1996), thus realization is not only about project management. Despite this fact, there are no evidence how the benefit realization factors differ from CSFs. Therefore, common realization practices need to be more precisely defined.

2.4 Conclusion of Theoretical Background

This study identifies two dimensions of project success: project management success and delivery of benefits. Project management success measures project management, and thus how the project is accomplished as regards its budget, time and scope (Serra & Kunc 2015). Literature has identified CSFs to achieve project management success (Cooke-Davis 2002). Benefits are defined as improvements gained through positive change (Breese et al. 2015; Serra & Kunc 2015). The BRM process is created to manage the desired benefits to achieve a successful project. The identification of benefits is the first phase of the BRM process (Ward et al. 1996). This study identified commonly desired benefits in Table 3 based on the literature and the scope of this study. Planning the realization of the benefits is the second phase of the BRM process (Ward et al. 1996). Generally, benefits are realized through changes and over a longer period of time (Ward et al. 1996; Shenhar et al. 2001).

However, there is a clear need for further research of actual benefit realization practices. This study aims to fulfill the lack of literature by studying how benefits are practically realized. The understanding of realization practices is crucial for achieving project success. Figure 4 summarizes the theoretical framework of project success.

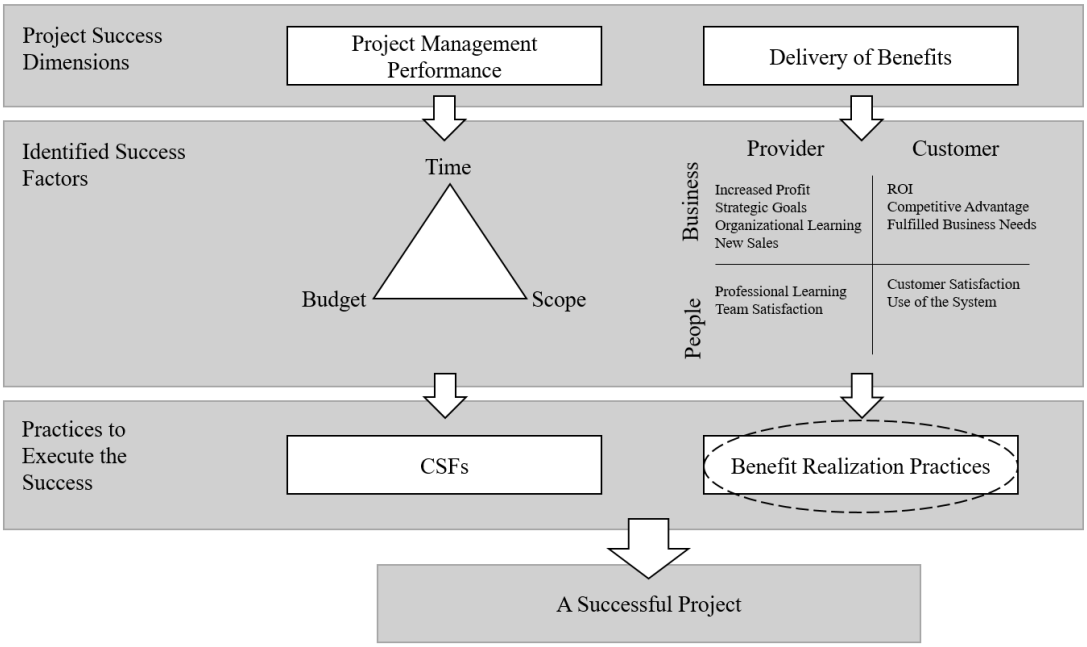

Figure 4. *The Theoretical Framework of Project Success*

The focus of this study is circled in Figure 4. More specifically, this study aims to understand the realization of benefits in IT customer delivery projects. The understanding of success may differ between stakeholders, therefore this study takes into account the

aspects of standard stakeholders of an IT customer delivery project: the customer's business managers and customer's project team, as well as the supplier's business managers and supplier's project team. The literature on BRM has mainly studied IT investment projects, thus this study brings new value to the current literature by taking account of overall customer delivery projects. As a result, this study aims to expand the understanding of benefit realization practices and thereby improve the project success of the target company.

3. RESEARCH METHODOLOGY

3.1 Nature of the Research

This study uses a constructive research methodology. The purpose of constructive research is to solve a problem with different tools to produce a solution for both practical and theoretical problems (Oyegoke 2011). The need for this research is identified in both actual business and existing literature on the topic. The target company wants to understand how desired benefits are achieved in projects, and literature of benefit management lacks empirical evidence of benefit realization. The constructive approach was chosen as it supports the purpose of this study. In addition, constructive research is often used for managerial problems, therefore it is suitable for project management studies (Oyegoke 2011).

To understand the problem, first academic literature was reviewed, the subsequent empirical study completed the understanding. Therefore, the approach of this study is abductive. By combining existing academic literature and empirical study, this study is able to fill the gap in understanding and connect it with existing studies. Lastly, the created construction was evaluated and a conclusion was drawn.

3.2 Research Methods

This thesis is a case study, where data are gathered from IT customer delivery projects through semi-structured interviews. A case study is a research strategy for empirical study, where a phenomenon is studied in real-life context by using several sources of information (Saunders et al. 2009, pp. 145-146). The purpose of the study is to gain the best understanding of how benefits are realized in actual IT customer delivery projects; for that purpose a case study is well suited (Saunders et al. 2009, p.146). This case study includes multiple cases, since the empirical study focuses on nine projects. Having results from several cases makes this study more reliable and valid (Saunders et al. 2009, pp. 146-147).

Information collection techniques may vary in case studies (Saunders et al. 2009, p.146); this study uses semi-structured interviews. Before the interviews, a literature study of project success and BRM took place to develop the initial theoretical framework on project success and benefit realization practices. The interview method was chosen, since the iron triangle based approach to project success is still dominant (Wateridge 1998; Serra & Kunc 2015; Martinsuo & Lehtonen 2007). The interviews as a data gathering

tool ensured that needed information was gathered by allowing the chance to explain the scope of the study more comprehensively if needed.

The theoretical framework was expanded through developing the construction concerning benefit realization practices further, based on the results of the interviews, and was presented to the management of the target company. The management has the best view of the overall project success and current practices in the target company; thus, the management representatives evaluated the results. The conclusion of the study was made based on the created construction and its evaluation.

3.3 Data Collection

The nine projects for empirical study were chosen by the target company's project managers and business managers. The projects were chosen based on the following criteria:

- The project was about to end or had recently ended
- Certain people from the project were willing to participate in the interviews

First, the project had to be in the end phase or have ended in order to evaluate its success. Moreover, the project members had to be able to remember the details of the project, hence the chosen projects could not be too old. It was also crucial that the certain people of the project were willing to participate in the interviews during October 2017. In addition, the overall selection of projects took into account that the sample of nine projects included projects from different business units, business areas, solutions, project models and kinds of customers. The final selection of projects is presented in Table 5. The projects are divided into small, medium and large projects based on the budget. Small projects are below 50,000 euros, medium projects are between 50,000-500,000 euros and large projects are above 500,000 euros. The project model is also presented in the table. 'Agile' means that the project used agile methods, but the method was clearly not scrum. The solution defined what was implemented. In addition, projects customized these solutions for different use. Lastly, the customer sector is defined.

.

Table 5. *Sample of 10 projects*

Project	Project size	Project Model	Solution	Customer Sector
Project 1	Small	Waterfall	Web solution	Public
Project 2	Big	Agile	CRM	Public
Project 3	Big	Scrum	Own product	Public
Project 4	Big	Scrum	CRM	Public
Project 5	Medium	Agile	CRM	Private
Project 6	Medium	Agile	ERP	Private
Project 7	Medium	Agile	Web solution	Public
Project 8	Big	Waterfall	Own product	Private
Project 9	Small	Agile	Own product	Public

The sample included different kinds of projects, customers and business cases. The projects were implemented in different departments of the customer organization as the delivered solutions varied. An ERP system was delivered for a finance department while a document management system project was implemented with the IT department. In addition, each project had a different customer. The customer organizations were from different business fields, and some had more experience with IT projects than others.

The qualitative data were gathered based on semi-structured interviews. The interviewed roles were chosen based on the scope of this study. As previously stated, this study focuses on the following stakeholders: the customer's business managers, the customer's project team, the supplier's business managers and the supplier's project team. In addition, the project manager was taken into account in the interviews, as that position forms the central part of the project as pictured in Figure 1. Therefore, the goal of the case study was to interview the following roles from each project:

- The customer's business manager
- A member of the customer's project team
- The supplier's business manager
- The supplier's project manager
- A member of the supplier's project team

The roles of the interviewees from the customers' side varied, based on the project and delivered solution. Some of the interviewees fulfilled several roles. For instance, in a ERP project the Chief Financial Officer (CFO) was the business manager, project member and a future user of the system. As a result, the roles of the interviewees vary between projects. The goal was to interview the roles of the customer that was able to consider the business as well as the project aspect. The customers' business managers were for instance CFOs, business controllers, business area owners or product owners. The customers' project

team members were project managers, solution architects, testers, communication managers and system users. These customer representatives were mainly interviewed individually but also in groups. Table 6 summarizes the interviews for the empirical study.

One supplier's business manager, project manager and project team member from each project were interviewed separately. The supplier's business managers were business unit leaders, therefore they considered the questions and topics of the interviews on a more generic level, but also took into account the project sample of their business unit. In addition, the country manager was interviewed as a business manager. The majority of the supplier's project managers were titled as a project manager of the projects, but one of the projects did not have a project manager, therefore a scrum master was interviewed as a project manager. The interviewed supplier's project team members were solution consultants, technical consultants or programmers.

Table 6. *Number of Interviewees*

Interviewee Role	**Number of Interviewees**
Supplier's business managers (business unit lead, country manager)	4
Supplier's project manager (project manager, scrum master)	9
Supplier's project team member (solution architect, technical architect, programmer)	9
Customer's business managers (CFO, business controller, business area owner, product owner)	8
Customer's project team members (project manager, solution architect, tester, communication manager, system user)	9

Most of the interviews were done face to face, but for some video conference calls were used. Overall 39 people were interviewed. The length of the interviews varied between 20 minutes to one-and-a-half hours; the median interview length was 56 minutes. The interviews with supplier's project team members were the shortest; in turn, the interviews with supplier's project managers were the longest. The length of the interviews depended on how many benefits were discussed with the interviewee. The discussed benefits were based on Table 3. The customer's benefits were discussed with all customer representatives, the supplier's business benefits were discussed with the supplier's business managers, and the supplier's project team benefits were discussed with the supplier's project team. As an exception, all benefits were discussed with the project manager, since the project manager should have an overall picture of the project.

The interviews were executed to collect information of how the chosen projects succeeded. The full interview frame is presented in Appendix B. The frame was created according to the benefit defining process that Badwei (2016) identified based on literature:

1. Clarify the current state
2. Define success criteria
3. Clarify who is responsible for the realization.

First, the current state of success was defined by asking about a grade for the project. After that the interviewee was asked to identify the success criteria that defined the project success. Thereby the definition of success was defined as well as the current state of the benefits. Lastly, each success criterion that was identified in the interview or relevant for the role in the benefit framework in Table 3 was discussed more deeply. The purpose of the discussion was to find the responsible person for benefit realization, and in addition, when and how the benefits are realized.

After the case study of the nine projects, the management of the target company evaluated the created frameworks and suggested recommendations for the target company. The following roles evaluated the results:

- Chief Executive Officer (CEO),
- Executive Vice President of Business Development and
- Quality Director

The management was chosen to evaluate the construction, since they have the best overall picture of the company's project success and current practices. The management focused on evaluating whether the results are suitable for the target company.

3.4 Data Analysis

The interviews were mostly recorded, except for a few where only notes were taken. It was known in advance that there will be interviews that cannot be recorded. Therefore, a framework for notes was planned, which is presented in Figure 5. The analysis of the results was supposed to compared benefit realization practices between benefit and stakeholder, and it was taken into account when creating the note framework. After the interviews, the notes were written also from the recorded interviews.

The notes include very general information on the left. On the right, each identified success criterion from the literature study was given an id-number. For example, the id-number for increased profit was "2". The id-numbers were standard for all interviews; data analysis was easier when the results of a specific id-number were comparable. The actual notes in the middle were divided into current state discussion and actual benefit discussion. First, in the current state discussion, the grade for the project was written down, this was followed by the success criteria for the grade. In case there were new success criteria, that did not have an id-number, there was space for those. All the other

relevant aspects were written down as additional notes. The benefit discussion focused on each benefit separately. The responsible role for benefit realization, the phase when the realization has happened and the actions that were done to realize the benefit were written down for each benefit. In addition, some good quotes were written down. There are as many benefit sections as discussed benefits.

Framework for Notes		
Name of the interviewee: Role of the interviewee: Role in organization: Project: Length of the interview:	Current State Discussion - Grade (1-5) : - Success criteria: Other benefits: Benefit Discussion • Benefit: • How: • When: • Responsible: • Quotes: • Benefit: • How: • …	1= Iron Triangle 2= Increased Profit 3= Strategical Goals 4=New Sales 5=Organizational Learning 6= Team Satisfaction 7= Professional Learning 8= ROI 9= Competitive Advantage 10= Fulfillment of Business Needs 11= Customer Satisfaction 12= Use of the System

Figure 5. *Framework for the Notes*

First the general thoughts the interviewed projects were analyzed. The interviews gave a good overall picture of the target company's projects. After that the data analysis was made, based on the primary notes. The notes were sorted based on the role of the interviewee. The differences between roles were compared and collected in Table 7. The identified benefits from the interviews were also compared with Table 3 that was based on literature. The results between stakeholders were analyzed based on Table 7. As a result, the table brought a new understanding of project success criteria between the project stakeholders.

After that, the answers were compared based on the benefit id-number, in other words the answers regarding a specific benefit were compared. Each benefit was compared separately. As an exception the customer's ROI and competitive advantage were analyzed together since the interviewees often related these benefits to each other; thereby the results were identical. First all the realization practices were identified and marked in a table (the full table of all benefits is in Appendix C). A practice was marked into the table if more than one interviewee identified the same practice. The practice, timing,

responsible role and the needed investments were defined in the table. The “N/A” means that the topic was not discussed or identified in the interviews. The time dimension is divided into three categories: before the project, during the project and after the project. The investments are divided into money, time and resources. In addition, the role that identified the practice is marked to show which roles identified the practices and how frequently this was done. The general conversation and examples of benefit realization practices are stated before the tables of benefit practices.

The benefits and benefit realization practices were evaluated based on Table 7 and identified benefit practices. A framework of the benefits between stakeholders and the connections between benefits were created to clarify the main findings of benefits and Table 7. Even though each benefit has its own realization practices, the table of benefit realization practices shows that there are common phases for benefit realization. Table 20 was created to show how frequently these phases were identified from the realization factors. Therefore, these factors were considered crucial for the realization. As a conclusion, Figure 8 pictures the overall findings and the created understanding of benefit realization. The main points of the figure can be summarized with crucial phases of benefit realization. The recommendation for the target company were based on the summary of the results that highlighted the main findings. Lastly, the management of the target company evaluated the created framework and recommendations based on their point of view. The management focused on evaluating whether the results are suitable for the target company and IT customer delivery projects, if there were any contradictory factors, and how well the study achieved its goal.

There was also an opportunity to compare the answers based on the projects, but that was not taken into account in this study. In addition, the diversity of the projects offered very specific information about their realization. However, this study focuses more on the generic level of the realization. For instance, the interviewees brought up examples of how change management should be done and what is relevant in change management to realize a benefit, but in this study the relevant finding is that change management was the realization practice.

Most of the additional notes were directed to the supplier as feedback, therefore they were not taken into account. The primary notes and additional studies were used to summarize the results for the case organization.

4. RESULTS

4.1 Overview of the Projects

Generally, the IT solutions were delivered to solve customers' business pains by:

- Digitalizing a process,
- Replacing an old system, or
- Creating a new process that an IT system allows.

The sample of nine projects mainly included successful projects; the average grade for project success was 4 on the scale of 1-5, where 1 refers to an unsuccessful project and 5 is a successful project. Most of the customer's business manager and customer's project team, as well as the supplier's business managers and project team had similar opinions of the project success. The difference was that the customer's and supplier's business managers evaluated the project on a general level, whereas the project team members and some of the customer's business managers evaluated the project based on the project team's actions. Therefore there were also differences, where the supplier considered that the project was a success but the customer was not quite satisfied, and vice versa.

The projects were considered as successful when basic project management aspects were working, such as the communication, the project teams of both supplier and customer were suitable for the project, the project model was suitable for the situation, and the project included people that had power to make decisions. All interviewees identified difficulties in the projects, but when the core concept in a project worked well there were no showstoppers. One interviewee supported this by saying:

Of course there were some challenges in the project, but we got over those. The project team was generally good and the co-operation worked well.

The projects that were not that successful identified several problems. It seemed more difficult to identify the actual problem in the big picture. The representatives of these projects mainly focused on the iron triangle measurements, whereas the successful projects more often considered the achieved benefits.

4.2 Criteria for Project Success

The interviews started by a question about project success. After grading the project, each interviewee told the success criteria for the project. Most of the criteria were project specific, whereby the interviewee focused on what was important in the project. However,

similarities can be identified in Table 7 that summarize the identified success criteria. The table separates the answers between stakeholders to identify the differences between roles. Table 3 divides the identified benefits between roles, and accordingly the gray area defines the success criteria that were planned to be discussed with each role, however, the interviewees themselves also identified other criteria for success. The success criteria identified by the interviewees are marked in the first column. After the first question, the success criteria regarding the specific role in Table 3 were presented to the interviewee. If the interviewee considered the other success criteria important for the project, this is marked in the second column. If the criteria were not considered relevant for the project, this is marked in the third column.

Table 7. *Identified Success Criteria*

Success Criteria	**Supplier's Business Manager (n=4)**			**Supplier's Project Manager (n=9)**			**Supplier's Project Team (n=9)**			**Customer's Business Manager (n=8)**			**Customer's Project Team (n=9)**		
	1.	2.	3.	1.	2.	3.	1.	2.	3.	1.	2.	3.	1.	2.	3.
Iron Triangle	4			7	2		3			5			4		
Customer's ROI					9					1	7		1	8	
Customer's Competitive Advantage					9					1	7		1	8	
Customer's Fulfillment of Business needs	4			7	2		9			7	1		9		
Customer Satisfaction	4			4	5		5				8			9	
Efficient Use of the System	1			1	8					3	5		1	8	
Supplier's Increased Profit	2	2		2	7										
Supplier's Strategic Goal	1	3		1	8										
Supplier's Organizational Learning	1	3			9										
Supplier's New Sales	3	1		4	5										
Supplier's Professional Learning	1				9		1	8							
Supplier's Team Satisfaction		4			9			9							

1. Identified success criteria by interviewee, 2. Interviewee considers as important success criteria for the project, 3. Not relevant success criteria for the project

All interviewees thought that the created framework for success criteria of a project is comprehensive and summarizes the overall project success. No other success criteria were identified in the interview. However, some of the criteria covered wider concepts, such as the customer's competitive advantage. Some customers were expecting performance improvements and thus competitive advantages, while other customers were trying to

achieve better IT security or fulfill processes according to a new law. However, both of these aspects can be considered as a competitive advantage.

Table 7 also shows that the benefits cannot be divided into supplier's business, supplier's project team, customer's business, and customer's project team benefits. For instance, all the roles consider the fulfillment of business needs as the most important benefit. The customer satisfaction seems to share opinions between project managers and it was not identified by customer representatives. The supplier's team satisfaction was not identified by anyone. Most interviewees only presented a few criteria for project success, although the other criteria were also considered as important. Only the supplier's business managers identified more criteria by themselves, which can be identified from the table when comparing the number of answers in columns 1 and 2. It seems that the few most important criteria define success, even though there can be several relevant aspects for a project. Table 8 summarizes the four most common success criteria that defined project success for each stakeholder. The importance is calculated based how many interviewees identified the success criteria compared to the number of interviewees for the role.

Table 8. *Common Success Criteria for a Project*

Importance	**Supplier's Business Manager**	**Supplier's Project Manager**	**Supplier's Project Team**	**Customer's Business Manager**	**Customer's Project Team**
1	Fulfillment of Business Needs	Fulfillment of Business Needs	Fulfillment of Business Needs	Fulfillment of Business Needs	Fulfillment of Business Needs
2	Iron Triangle	Iron Triangle	Iron Triangle	Iron Triangle	Iron Triangle
3	Customer Satisfaction	Customer Satisfaction	Professional Learning	Efficient Use of the System	Efficient Use of the System and ROI and Competitive Advantage
4	New Sales	New Sales		ROI & Competitive Advantage	

The fulfillment of business needs and the iron tringle were common success criteria for all stakeholders. However, one supplier's business manager said:

The solution creates value for the customer in project business, not brilliant project management.

However, customers are still interested in the iron triangle measurements even though the value is created through benefits. There were also customers that did not consider the iron triangle as an important success criterion.

The following subsections summarize the key points of the discussion of each success criterion. In addition, the success criteria are presented in a table that summarizes the good practices for the realization of success, who was at the center of the realization,

when the realization took place, and what kind of investments were needed. The full table that summarizes all criteria is in Appendix C.

4.2.1 Iron Triangle

This chapter lists the main results of iron triangle measurements. Many interviewees identified the iron triangle as a success criterion for projects, and thus it is important to note this in the results.

The iron triangle measurements, time, budget and scope, are the traditional measurements for a project that were also identified in the interviews. However, not all the project managers pointed out the iron triangle as a success criterion for the projects. These projects had more important measurements that were considered when defining the success. Nearly half of the customer representatives did not mention time, budget or scope. These customers only focused on the desired benefits.

A few of the supplier's project managers and customer's representatives pointed out that the sales phase defined the preconditions for the project's iron triangle measurements. In addition, the supplier had its own goals for iron triangle measurement in a few of the projects that differed from the ones discussed with the customer. Similarly, some customers had their own budget, schedule and scope that were not shared with the supplier. For instance, there were projects that were sold with an unrealistic budget, and thus the supplier had to do some additional work. The empirical study also identified customers that had bigger budget for the project, and even though the project exceeded the agreed budget, it did not exceed the customer's budget. Thus, the understanding of iron triangle measurements varied between the stakeholders.

Even though the iron triangle was commonly identified, most of the interviewees emphasized benefits as more important success criteria for the project. One customer's project team member said:

The budget and schedule were exceeded; however, the result was beyond all of our expectations.

Only the supplier's business managers highlighted that the schedule is not as important as the budget and thereby profitable business is crucial for the supplier. They also noted that there might be some strategical cases where the supplier is willing to bargain of the profitability.

Budget, schedule and scope are factors that are executed during the project, however, they also evolve along with the project. Several projects changed these goals through a change management process. For instance, the original scope was rarely done as the actual need

was understood later in the project. The changes in scope also often had direct effects on budget and schedule. The interviewees pointed out that it was important that all parties understood the change to avoid difficulties at the end of the project. Problems could arise if the defining phase in the sales had been poorly done. The projects that were sold with a fixed price easily caused disagreement when the scope was not precisely defined. The project model also had an impact on the evolvement of a scope. Projects done with scrum or agile project models bend to change more easily than waterfall projects. The interviewees noted that it required common understanding and agreed processes. In addition, the change management process had to include people that had power to make changes.

4.2.2 The Benefits for the Customer

The customer benefits were not only relevant for customer representatives but also crucial for the supplier in all projects. Therefore, the customer and supplier clearly shared the same interest in the projects. There were also benefits that were more relevant for the supplier than the customer. The customer benefits are mostly presented separately, except ROI and competitive advantage, which are discussed together.

Fulfillment of Business Needs

The fulfillment of customers' business needs was the most identified success criterion in Table 7, and thus the most important success criterion for the supplier's business managers, supplier's project managers and supplier's project team members, as well as the customer's business managers and customer's project team members. Therefore, meeting the customer's needs was clearly not only the customer's benefit but all stakeholder's common interest in a project. The supplier's business managers strived to meet customer expectations to achieve customer satisfaction and thereby new sales, strategic goals and increased profit. The supplier's project managers generally considered the fulfillment of customer's business needs as the purpose of the project. The project team members thought that their job is to solve the customer's problems, and that the fulfillment of customer's business needs defined how they succeed. Lastly, the customer's representatives mainly expected a solution for their business pains from the project. One customer summarized this phenomenon well by saying:

The execution of a project should not be that challenging since all the parties have the same interest.

However, the common goal also created contradictory interests. The supplier's project team tried to fulfill the customer's business needs by offering the best solution for the

customer. The best solution was not always the solution that was agreed in the agreement and thus it required change management. The supplier's business managers and project manager were trying to offer the solution that had been agreed, and the better functions were discussed in the steering group as part of the change management process. One project manager and one customer's business owner pointed out that sometimes the supplier's project team may mislead the customer by offering better solutions without discussing change management. Similarly, the misused project model guided the fulfillment of the business needs to disagreement of the project scope, budget and time. For instance, in one project the scrum model became more of a challenge, since the scope was not fixed and the customer was expecting solutions for all their needs. Therefore, the project manager of the project pointed out that it is crucial that the customer's project team is able to define the upper level scope without taking all the end-user's wishes into the backlog. The additional needs can also be fulfilled after a project, by a change management project. However, there was also one project where both the supplier's project manager and the customer's project team member thought that the suitable project model ensured that the actual needs were fulfilled.

The most successful projects identified the common interest as one key success factor. It required a common understanding of the needs from both supplier and customer. The customer's needs may have evolved during the project, and sometimes the supplier and the customer had different understandings of the actual needs. This was identified when the interviewees were telling when the understanding of business needs was created. Most of the customers invested time, money and resources in investigating their actual needs before the project. One customer's solution consultant commented:

The customer had to first define the needs and the solution, and only after that the suitable supplier was chosen.

However, the supplier's representatives stated that a customer rarely knew their actual needs, therefore it was a supplier's job to discuss with the customer and define the actual needs and a solution that meets those needs. Similarly, one customer said that it was crucial that customer invested fulltime resources for the project to ensure the fulfillment of their business needs. Some of the suppliers' project managers pointed out that they invested a wide range of professional in the defining phase to ensure the best result. In addition, half of the customers' representatives were expecting the supplier to guide, question and tell them what kind of solution would be most suitable for them. However, one customer representative said that the project team started to question the customer's opinions only later in the project when they knew the customer better, even though it would have been crucial at the beginning of the project.

Overall, the understanding of customer needs was created in different phases of the project. The customers and the suppliers were willing to invest to understand these needs. However, sometimes the needs differed to or exceeded what had been agreed. Thus, the

change management process was crucial in the project to ensure the fulfillment of the needs. Suppliers' project managers believed that some customers felt change management to be extortion, despite its purpose to fulfill the customers' actual business needs. During the interviews, all customers understood that needs evolve, and that they have to invest more if the scope is extended.

Eight out of nine customers were planning new projects that will continue the fulfillment of the needs. Some customer's business managers had already planned the required solutions with the supplier. The first solution was mostly considered as an infrastructure for the further development, or as a required part of a bigger solution. Therefore, the continuity and the following projects were considered crucial for achieving the actual benefits that were expected in the long run.

Table 9. *Practical Realization Practices for Fulfillment of Business Needs*

Factor	**Who**	**When**	**Investments**	**Identified by**				
				SBM (n=4)	**SPM (n=9)**	**SPTM (n=9)**	**CBM (n=8)**	**CPTM (n=9)**
Common understanding of the need -sales phase -change management	All parties	Before the project, during the Project	Money, time, resources	3	7	2	6	7
Common interest	All parties	During the project	N/A	2	4	2	3	5
Project model	Supplier, customer	During the project	N/A	0	3	2	2	2
Change management	Customer, supplier	During the project, after the project	Money, time, resources	1	6	1	2	3
Continuity	Customer, supplier	After the project	Money, time, resources	3	6	3	7	8

SBM= Supplier's Business Manager, SPM= Supplier's Project Manager, SPTM= Supplier's Project Team Member, CBM= Customer's Business Manager, CPTM= Customer's Project Team Member

Customer Satisfaction

Customer satisfaction was more crucial to the supplier than to the customer. The customer thought that it was important to be satisfied, but that satisfaction was obviously a result

of the project. Instead, the supplier tried more goal oriented to achieve a satisfied customer, which was a desired benefit for the supplier's representatives.

Customer satisfaction was also crucial for other benefits such as new sales, as strategic goals and increased profit often required a satisfied customer. Customer satisfaction is a sum of several factors and may evolve during the project, although the customers who were satisfied in the interview thought that they had been satisfied throughout the project. Both customers and suppliers thought that the customers were satisfied during the project when basic project management aspects were working, such as communication, both project teams from supplier and customer were suitable for the project, the project model fitted the situation, and the project included people who had the power to make decisions. In one case, the project manager and the customer's representatives pointed out that they were unsatisfied until the project management started to work: they got full time resources, the communication functioned and they began to have fun in the project. Thus, customer satisfaction may require some resource investments or changes. The projects where customer satisfaction was less pronounced mainly had various communication problems. Most of the time the customers thought they has not been informed about something related to the project's progress. The supplier's representatives did not bring up these difficulties. Therefore, one customer emphasized the importance of customer feedback channels through the project. The supplier company have continuous project satisfaction surveys for the customer's project team members and a general satisfaction survey for the customer's business managers.

Although customer satisfaction is a benefit targeted by a supplier, the customer is an important part of achieving it. The customer is seldom satisfied if the project fails. However, the project will never succeed if the customer is not ready to commit to it. One business manager stated:

The customer's commitment is always the prerequisite for project success.

In addition, the customer's and supplier's management have to commit to the project to enable its success. One customer representative pointed out:

The management is often questioning, blaming and criticizing the project even though their job is to enable the project to progress, to clear obstacles and to support.

Similar difficulties that decreased the customer satisfaction were also identified in another project. Therefore, it is crucial that all parties are commit to the project to achieve a satisfying result. However, based on Table 7, after the project the fulfillment of the customer's business needs commonly defines the success of the project and thus the customer's satisfaction.

Table 10. *Realization Practices for Customer Satisfaction*

Factor	Who	When	Investments	Identified by				
				SBM (n=4)	**SPM (n=9)**	**SPTM (n=9)**	**CBM (n=8)**	**CPTM (n=9)**
Successful execution: - communication - project teams - project model - power to make decisions	Supplier and customer	During the project	Money, time, resources	4	9	2	8	9
Role commitment	Customer	During the project	Time, resources	2	5	0	2	3
Management support	Business managers	During the project	Time, resources	1	1	0	2	1
Fulfillment of business needs	All parties	After the project	Money, time, resources	3	5	5	4	8

SBM= Supplier's Business Manager, SPM= Supplier's Project Manager, SPTM= Supplier's Project Team Member, CBM= Customer's Business Manager, CPTM= Customer's Project Team Member

Efficient Use of the System

The use of the system was strongly connected with user satisfaction. Generally, the use was more an obvious expectation than an expected benefit for the project. One exception was a project where a customer was expecting increasing use of their process by investing in a new IT solution. In this case, the use of the system was an expected benefit of the project. However, the interviews proved that the use is not always a foregone conclusion for IT projects, but it is the most crucial part for the realization of the customer's other benefits. Thus, the use of the system can be considered as a benefit.

Many of the customers' representatives pointed out that they expected the supplier to provide more guidance and information about the system, and changes should have been shared in the project to ensure the future use. However, the IT project was a great change for most of the customers, and therefore it would have required more a change management process in the customers' organization. Yet, only one customer recognized that the project had to have a change management process. That representative said:

The change management process is a crucial part of the project and the sooner it is started the better benefits are achieved.

The customers identified that employees may fear being replaced by IT, which may increase their resistance for the IT. Therefore, it is crucial that the change management

process was started early, and that if needed new assignments were given to employees. However, several customer representatives identified that IT allowed employees to focus on more important task.

In addition, the interviews pointed out that the use of the system required investments by the customer. One customer defined that when the actual project with the supplier ends, even a bigger project starts in customer organization, where the customer first ensures the use of the system. The users must be trained and supported to ensure the end-benefits. Of course the customer can buy training and support from the supplier, and thus ensure the correct use of the system.

However, the interviews proved that investments in the use should start before the project ends. The scrum project model allowed the use to start already during the projects, by delivering small pieces of the solutions after every sprint. Thus, the systems were mainly in use when these projects ended. Similarly, a few other projects included the users in the project in defining and testing phases. It was an investment by the customer, but the users were able to provide valuable information of practical needs as well as feedback on the system's user-friendliness. The feedback and improvements ensured better use of the system in later phases. The customer representative of a project that was made for consumer markets, commented:

It was one of our main goals to create a user-friendly system to ensure that the users will actually use the system.

In consumer markets the user may choose whether they use the system or not. However, the internal solutions for the companies, such as ERP and CRM, are mandatory for the users. Even though the customers identified that there was resistance to the change, in the end everyone had to start using the system. Despite this, the use of the system does not realize all of the end-benefits, and one of the customer representative said:

First, it is important that the users start to use the system, but for desired benefits the most crucial part is when the users learn to fully utilize the system and thereby realize the expected benefits.

Table 11. *Realization Practices for Use of the System*

Factor	Who	When	Investments	Identified by		
				SPM (n=9)	CBM (n=8)	CPTM (n=9)
User roles part of the project	Customer	During the project	Resources and time	3	7	5
Change management	Customer, supplier	During the project	Time, resources	4	1	1
Training and support	Customer, supplier	After the project	Money, time and resources	4	6	6

SPM= Supplier's Project Manager, CBM= Customer's Business Manager, CPTM= Customer's Project Team Member

ROI and Competitive Advantage

Return on investment and a competitive advantage were considered the main benefits desired from the business case, although only few interviewees identified these as success criteria for the project. These benefits are only realized if the solution fulfills the business needs and it is used. Thus, these benefits are called "end-benefits". All customers were expecting some kind of return on investment, but it varied based on the delivered system. One customer specified the end-benefits well by saying:

There are two kinds of expected end-benefits: performance benefits and quality benefits.

Performance benefits can be measured by money, time and results, whereas quality benefits may consider new things that the IT allows, such as better quality of work or better information security. Return on investments will cover performance benefits and better performance, and quality benefits will create the competitive advantage.

The projects that delivered IT infrastructure systems for the customers, such as ERP or CRM, did not have that clear measurements for the end-benefits. One customer said:

The new ERP system will probably bring some benefits but we are expecting the actual benefits only when we start the reporting project after the ERP project.

The infrastructure system is often the requirement for the customers to start the projects where the actual end-benefits are realized. Therefore, the first project may not have many expected benefits, however, it is still the crucial project for the end-benefits. The first project is an investment that is mandatory for the next more business-driven projects. Therefore, the continuity of the customer relationship is important to achieve the end-benefits. It is crucial that the customer understands how and when the benefits are realized. The infrastructure system project should not be evaluated as a failure if it does not bring end-benefits.

Table 12. *Realization Practices for ROI and Competitive Advantage*

Factor	Who	When	Investments	Identified by		
				SPM (n=9)	CBM (n=8)	CPTM (n=9)
IT infrastructure	Customer	Before the project	Money, time, resources	5	5	3
Fulfillments of business needs - sales phase - change management	Customer/supplier	During the project	Money, time, resources	6	5	6
Use of the system	Customer	After the project	Money, time, resources	2	6	5
Business-driven projects	Customer	After the project	Money, time, resources	3	4	2

SPM= Supplier's Project Manager, CBM= Customer's Business Manager, CPTM= Customer's Project Team Member

4.2.3 The Benefits for the Supplier

The supplier's benefits were discussed with the supplier's business managers, the supplier's project managers and the supplier's project team members. Each benefit was discussed separately, thus the results are presented similarly in the following subchapters.

New Sales

The "new sales" benefit was considered as the most important benefit for the supplier's business. All business managers and project managers from the supplier mentioned that new sales were expected from the project. New sales can be divided into new sales with the same customer or with a new customer, as Figure 6 shows.

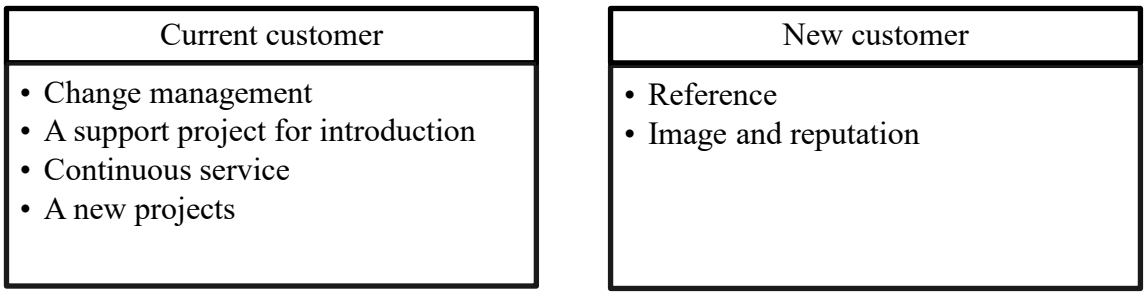

Figure 6. *New Sales Divided into Current and New Customers*

The sample projects created new sales with their current customers through change management and by selling introductory support, continuous service, or a new project. Change management was described as a formal process during the project, where the project scope, budget or schedule were fixed, but in some cases the supplier also made new sales.

During the project, the project managers experienced that they were responsible for executing the project successfully and thus, for achieving new sales opportunities. Overall, they noted that quality, a good project manager, capable project team, suitable project model, and a good relationship between customer and project team members convince the customer during the project. These convincing factors required some additional investments from the supplier to ensure the new sales. For instance, one project ensured better quality with additional work to satisfy the customer and thereby achieve the new sales. Another project made changes in the project team to convince the customer. However, few project managers noted that successful execution was dependent on the sales phase and what kind of starting points the project had for the success.

Some supplier's business managers and project managers pointed out that the created customer relationship was crucial for new sales. One project had clearly created a good customer relationship with the customer, and its project manager also highlighted the importance of the customer relationship in a project by saying:

It is important to create a customer relationship during the project to ensure the continuity with the customer.

In this case, the project customer's representative also seemed committed to the supplier by discussing several future projects. Conversely, some of the business managers focused on how the sales manager could be part of the project and thereby ensure the continuity with customer. However, if the sales manager was part of the project taking care of the sales, it would mean additional investments from the supplier. Despite that, a business manager pointed out:

New sales opportunities often appear in a steering group. The sales manager should be part of the steering group and thereby take care of the new sales opportunities. The project manager should not be the only one responsible for sales.

Sales to a new customer were also achieved through a successful project. Traditionally, a successful project is a good reference for a supplier in case the customer is willing to be a reference. The project managers of the completed projects noted that a satisfied customer was often willing to be a reference. However, some interviewees pointed out that sometimes the reference case may require investments from a supplier to ensure better customer satisfaction or quality. In addition, one project manager stated that an interesting and trendy solution may generate additional positive reputation and imago without an actual reference. For instance, one solution was made for consumer markets, thereby the media attention and positive word of mouth created additional value for new sales cases without investments. However, both a good reference and cases that create additional value are strongly dependent on the sales phase and what kind of cases are sold. One project manager said:

A good reference case is quite dependent on sales. Sales managers have to sell good and interesting reference cases that can be executed successfully.

Similarly, both new sales with current and new customers are dependent on the sales phase. Later in the project, the relationship created with the customer may increase sales. But in the end, the project's successful execution and the customer's satisfaction often defined whether the customer purchased more and is willing to be a reference.

Table 13. *Realization Practices for New Sales*

Factor	Who	When	Investments	Identified by	
				SBM (n=4)	SPM (n=9)
Starting points for the project from the sales phase	Sales manager	Before the project	N/A	2	7
Change management in the project	Project manager, team members, sales manager, steering group	During the project	Money	2	6
Well executed project: - quality - good project manager and team - project model - good customer relationship	Project manager	During the project	Time, money, resources	4	8
A good customer relationship	Project manager	During the project	Time	2	4
Customer satisfaction	Supplier	During the project, after the project	Time, money, resources	4	4
The continuity through reference	Sales manager	After a project	Time, money and resources	2	8

SBM = Supplier's Business Manager, SPM = Supplier's Project manager

Increased Profit

Project profitability is a traditional measurement that all project managers recognized, but the interviews revealed shared opinions on increased profit. Half of the business managers and a few project managers identified increased profit as a success criterion for projects. All interviewees considered increased profit important for the supplier's business, but other opinions about increased profit varied between project managers and business managers. One project manager stated:

So far, these projects are so unique that it is difficult to improve the operating model of a project in a way that it would increase the profitability of future projects.

However, one business manager had an opposite opinion of projects and stated:

Each one of our projects is an opportunity for learning that we can use in the future project, and thus improve the profitability.

The business manager also suggested that the project team members should be responsible for the profitability. Project team members have the possibility to improve the profitability through their work, hence the responsibility would guide the project toward better profit. One solution architect also shared that opinion by commenting that the profitability target and budget were important information for the project team members when creating the customer solution. However, a programmer stated that profitability oriented working did guide toward choosing the known technology instead of learning a new one. A few of the project managers supported the programmer by arguing that not all the project team members are ready to take on additional responsibilities.

Despite these different opinions, the business managers and project managers quite agreed that new sales increase profit in the long run; hence increased profit can also be considered a strategic goal in the organization. When considering the projects, the interviewees identified new sales increasing the profit in several contexts. The relevant phases were:

- Sales phase,
- Change management, and
- Continuity of the customer relationship.

First, the project sales phase was considered relevant. The sales phase defines the project and can improve the profitability during the project. Business managers talked about "reuse of project intelligence properties" as an increasing factor for long-term profitability. In other words, the development of outputs that can be reused in the future is considered as increasing factor for profit. As example, some of the projects increased long-term profitability through learning a new technology or developing a product. In the best scenario for the supplier, the learning process and product development were done as part of the project. Projects where the customers required a new technology or new features for the solution enabled the supplier to improve through a project. This is an investment from a customer to ensure that the result fulfills their business needs. The project managers identified that it was fully dependent on the sales phase whether the development can be done as part of the project. In addition, the supplier was ready to invest in the product development and new technologies in the project. The change management process in a project was also identified as an enhancing factor for profitability. However, change management was sometimes identified as more of a corrective action for a poorly sold project. Thus, it only increased one project's profitability and did not impact on the future profit. Lastly, the continuity with the customer was identified as a key factor for increased profit in the long run. One project manager said:

The first project had to be executed well to achieve other projects with the customer and thereby achieve better profitability.

The supplier was ready to invest in these projects, for instance, by additional work, to achieve the next projects or continuous service. Moreover, better quality of the project also benefited the supplier in the continuous service. One of the project managers pointed out:

The solution was made so well that the continuous service has not needed bug fixes, which increase the supplier's profitability in the long run.

One business manager also suggested that in the future the realization of customer benefits could be linked with the price of the project, thus successful projects would increase the supplier's profitability. Then the risk as well as the benefits would be shared, but it would guide the supplier to invest in quality.

Table 14. *Realization Practices for Increased Profit*

Factor	Who	When	Investments	Identified by	
				SBM (n=4)	SPM (n=9)
Sale phase enabling the reuse of project intelligence properties	Sales manager	Before the project	Time, money	3	4
The role of the project team	Project team	During the project	N/A	1	2
Change management in the project	Project manager	During the project	N/A	2	4
Good quality	Project team	During the Project	Time, resource	2	3
Continuity with the customer	Sales manager	After the project	Time, resource	2	8

SBM = Supplier's Business Manager, SPM = Supplier's Project manager

Strategic Goals

All interviewees believed that strategic goals were important for projects, but the project managers were generally not aware of the strategic goals that were set for their project. One project manager thought that the strategic goals in smaller projects were more customer specific. However, another project manager stated that smaller projects are great opportunities to take strategic risks. A small tailored project is an example of trying something new and thus creating value for the company.

The business managers defined that the crucial part for strategic goals is the sales phase, where the strategic choices are made. A sales manager has an opportunity to impact

strategic goals by selling specific solutions to target customers. One business manager specified that these strategic goals are also controlled in the sales phase case-specifically and through goal setting. To achieve these important strategic cases, some project managers and business managers said that suppliers were willing to invest in the sales phase or sell the project at a cheaper price.

However, in the long run the strategic goals will not be achieved if the projects fail. Thus, the supplier's sales manager, project manager and project team have a crucial part to play in order to ensure successful project execution. The actual strategical goals are achieved as the sum of several cases, but the first project was identified as a crucial case for achieving the rest of the projects that are part of the goal. For example, in one case the first well executed project offered an important reference for the markets and a solution. In turn, most of the project managers hoped for more information of the strategic targets. One business manager proposed a solution:

It is important to sharpen our strategy and with it the offering. Thus, we could focus on these primary products and sell as well as implement them even better and with a higher quality.

Thereby, the execution of the projects would become a more central part of the strategic goals. It would ensure better execution of the projects and more focused business.

Table 15. *Realization Practices for Strategic Goals*

Factor	**Who**	**When**	**Investments**	**Identified by**	
				SBM (n=4)	**SPM (n=9)**
Sales control in the sales phase	Business managers, sales manager	Before the project	Money, time and resources	4	8
Successful execution of a project	Supplier	During the project	Time, money, resources	2	3

SBM = Supplier's Business Manager, SPM = Supplier's Project manager

Organizational Learning

Organizational learning differs from other benefits. All business managers and project managers considered organizational learning as an important benefit, but no common practices were really identified between projects. Most of the interviewees said that it is important that the organization learns from success as well as from failure. Currently, the projects have lesson learnt meetings and documents within the project, but there is no

organizational level learning. However, there was one project where the learning was also done on an organizational level. Both the business manager and the project manager pointed out that case when learning was discussed. In that case, the organizational learning was fully dependent on the project manager. The project manager had the time, interest and capability to share the information for the organization. A business manager noted:

The organization has to be mature enough to process failures frankly without making the failure personal.

Therefore, learning and its sharing should be a culture in the organization. It should happen during and after a project as it happened in the one exceptional case. However, the project manager should not be the only responsible for realization of organizational learning. One of the business managers defined that the business unit leaders should also consider how success could be repeated.

Table 16. *Realization Practices for Organizational Learning*

Factor	**Who**	**When**	**Investments**	**Identified by**	
				SBM (n=4)	**SPM (n=9)**
Project roles, an active project manager that is capable to share learning	Project manager	During and after the project	Time and resources	1	1

SBM = Supplier's Business Manager, SPM = Supplier's Project manager

Professional Learning

In addition to organizational learning, the empirical study proves that IT companies strive to develop their professionals through projects. In the interviews, professional learning was often considered as learning a new technology, but one of the solution architects and two project managers noted that projects may also offer information about working methods and customers' business.

It seemed that some project managers were more goal-directed that others and tried to realize professional learning in the project team. The most committed project managers thought through the learning opportunities and encouraged the team members to do new things. However, again the sales phase was crucial, since it defined the projects that were executed. Therefore, the business managers thought that it is important that the sales managers take into account what kind of professional learning is needed in the company. One business manager completed this thought by saying:

The organization has to be ready to learn through new kind of projects to be able to expand in the markets.

The project team members pointed out that professional learning also depends on the professional's own activity. Several programmers said that they have suggested new technologies for the solution and thus created an opportunity for themselves to learn. Another programmer and a project manager advised that the project should have a solution architect who can suggest the suitable technologies. Therefore, professional learning is mostly dependent on the sales case, but a project manager or a team member may also find opportunities to learn.

The interviewees identified that professional development may require more time, but as a result the quality of the end solution may improve, and the result can meet the customer's business needs more comprehensively. In addition, learning was commonly considered as a motivating factor for project team members, it motivate them toward better solutions, and create higher team satisfaction.

Table 17. *Realization Practices for Professional Learning*

Factor	**Who**	**When**	**Investments**	**Identified by**	
				SPM (n=9)	**SPTM (n=9)**
Sales case	Sales manager	Before the project	Time	7	7
Active suggestions	Project manager, project team member	During the project	Time	3	5

SPM = Supplier's Project Manager, SPTM = Supplier's Project Team Member

Team Satisfaction

None of the interviewees identified team satisfaction as a success criterion for the projects by themselves. However, all project managers and project team members thought that it was an important criterion for success when it was discussed, but the interviews show that team satisfaction is not always related to project success.

Generally, the project managers thought that team satisfaction was important. Some project managers took care of team satisfaction, whereas others were not even aware of the current state of the satisfaction. The project managers that were also team leaders had a better understanding and opportunities to impact on their team satisfaction. The country manager defined:

Team satisfaction is a shared responsibility between project manager and team leader.

Project managers generally though that they could impact the team satisfaction through working methods, organizing the work, and discussing with the team members. In addition, the work had to be planned in a way that the team had a possibility to succeed in it.

The team members identified several factors that impact on their satisfaction. Commonly, the projects that were interesting and offered learning opportunities for the team members increased the team satisfaction. One project member added that projects with a greater purpose in society motivates the project team. Similarly, one customer identified that they should discuss with the project team members and motivate them by telling them the final purpose and impact of the solution.

The project members noted that the team also matters. For instance, all projects where there was only one team member in addition to the project manager highlighted that the team member would have been more satisfied if there had been a bigger team. Of course the team is dependent on the size of the project, but still one project manager said:

I hope that there will not be other projects with just one person. It is not motivating for the only team member.

The most successful projects created a team with the customer, or a strong connection between the supplier's team members and the customer team members were created. The team members that were working with the customer considered it motivating, since they got feedback straight from the customer. All project team members considered the project to be successful when they were able to meet the customer's expectations and deliver a solution for the customer's business needs. Similarly, the project managers thought that it was important for the team satisfaction that the team members had a possibility to succeed. The only difference was identified between interviewed team members: most of them were motivated if they had responsibility and freedom to decide, but some considered the additional responsibility and freedom to be unmotivating and wanted clear definitions and control for their work.

Table 18. *Realization Practices for Team Satisfaction*

Factor	Who	When	Investments	Identified by	
				SPM (n=9)	SPTM (n=9)
Motivating cases from the sales phase	Sales manager	Before the project	N/A	4	6
Team members	Sales manager, Project manager	Before the project, during the project	Resources	4	1
Feedback from customer	Customer	During the project	N/A	3	4
Success	Supplier	During the project	N/A	4	5

SPM = Supplier's Project Manager, SPTM = Supplier's Project Team Member

4.3 Refining the Framework of the Benefits and Benefit Realization

The following subchapters will summarize the findings of the empirical study and present a conclusion. First, the commonly desired benefits are divided between the stakeholders and the identified flow of the benefits is presented. The empirical study showed that most of the benefits require another benefit to be realized. When improving the project success, it is important to understand what benefits are expected by each stakeholder and how they can be achieved. The next subchapters summarizes how, when and by whom the benefits are realized. Based on the identified practices, the four most common phases for the benefit realization are identified. Lastly, the created understanding of benefit realization in the long run is pictured.

4.3.1 The Connections between Benefits

The literature study identified eleven commonly desired benefits. The empirical study proved that these benefits are the most desired benefits in IT customer delivery projects. Table 8 shows that only a few benefits define project success, but all the eleven benefits were considered important. However, the results of the interviews and Table 7 show that there are benefits that all customer's business managers, customer's project team members, supplier's business managers, supplier's project managers, and supplier's project team members target, and that there are benefits that are relevant only for one stakeholder. In other words, the categorization of the benefits in Table 3 did not reflect

reality. In addition, some of these benefits are clearly connected with each other; there are so-called “end-benefits”, such as the customer’s ROI and competitive advantage. These desired benefits are realized through other benefits. Similarly, new sales, strategic goals and increased profit are end-benefits that are realized if the customer’s expectations are met and the customer is satisfied. Figure 6 summarizes the identified connections between the benefits and divides the benefits between the stakeholders.

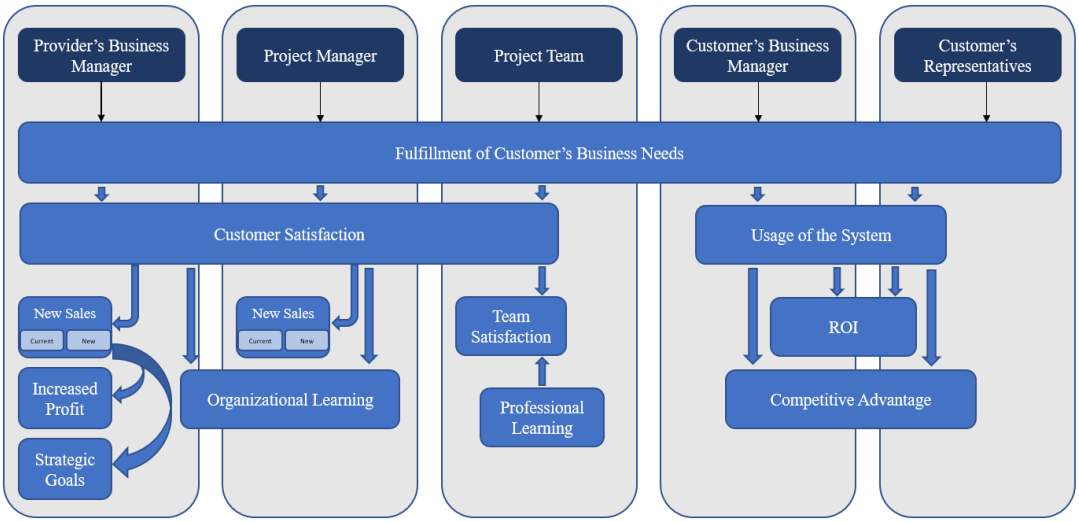

Figure 7. *The Summary of Desired Benefits*

Fulfillment of the customer’s business needs was considered as the main success criterion of projects by all stakeholders. However, there were also contradictory goals. The supplier’s team members targeted the best solution for the customer, and the supplier’s business managers and project manager were meeting the customer’s expectations in the agreed budget, scope and time. The customer was willing to have the best solution within the agreed budget and time. Although there is a common interest, project management must ensure that the project model and project management methods are followed in terms of achieving the benefits.

The supplier sought to achieve customer satisfaction by fulfilling the customer’s expectations. Thereby, new sales were achieved with current as well as with new customers. The satisfied customer was more willing to continue the relationship and be a reference. In the long run, the strategic goals were achieved through this reference as well as through new sales opportunities. Similarly, the new sales generated increased profit during the project and afterwards.

The project team also considered customer satisfaction. The team members mostly evaluated the project success based on how well they fulfilled the customer's business needs, and hence on how positive feedback they received from the customer. The success of the project also had an impact on team satisfaction, as did the professional learning. The team members felt that they were motivated when they were able to learn something new. However, organizational level learning did not often happen in the projects. It was dependent on the project manager, despite it was considered as the business unit leader's job.

The difference between the customers' business managers and the customers' team members was that the project team members evaluated the supplier's project team when considering the success, whereas the business managers more commonly evaluated the end result of the project. Most customers were looking for the fulfillment of their business needs. When the solution was delivered, it was crucial that the IT system was used. Thereby, the customers achieved ROI and competitive advantages. However, the first IT infrastructure system rarely offered significant end-benefits, but the use of the system is crucial for the end-benefits that can be achieved from additional business-driven projects.

4.3.2 The Crucial Practices of Benefit Realization

The realization of benefits is not an unambiguous process. Literature did not define how benefits are realized. It was identified that realization required a change, and that it may take a long time. Based on the results of the empirical study, Figure 8 summarizes the big picture of the general findings of benefit realization, and its connection to project success. The realization did not happen at a certain point in time, and may have required time after a project as well as additional projects. The results show that the benefits are realized before, during and after a project. Although benefit realization may start before the project, most benefits are only achieved after several projects. An IT infrastructure project does not commonly offer significant benefits, therefore business-driven projects are implemented to achieve greater benefits. For instance, the customer's competitive advantage and ROI as well as the supplier's strategic goals and increased profit are only achieved fully after several projects. Therefore, the understanding of project success evolves over time. Project management success is only one part of the success, and may not matter when some time has passed.

Benefit realization practices vary between benefits. Similarly, the responsible person varies based on the practice, and for some benefits more investments are needed. However, a few phases are commonly identified as crucial for benefits, as shown in Table 20. The following phases are identified for several benefits, and together they cover all the desired benefits: sale phase, project roles and model, change management and continuity. In Figure 8, the stars on the time-axis picture the timing of these phases..

Table 19. *The Most Common Phases for the Benefit Realization Practices*

	New Sales	Increased Profit	Strategic Goal	Organizational Learning	Professional Learning	Team Satisfaction	Fulfillment of Business Needs	Customer Satisfaction	Efficient Use of the System	ROI and Competitive Advantage
Sales Phase	X	X	X		X	X	X			X
Project Roles and Model	X	X	X	X			X	X	X	
Change Management	X	X					X		X	X
Continuity	X	X					X			X

In addition, the empirical study identified other practices for benefit realization. These four phases were most commonly identified and covered all the desired benefits. Therefore, these phases are suggested as crucial practices for benefit realization.

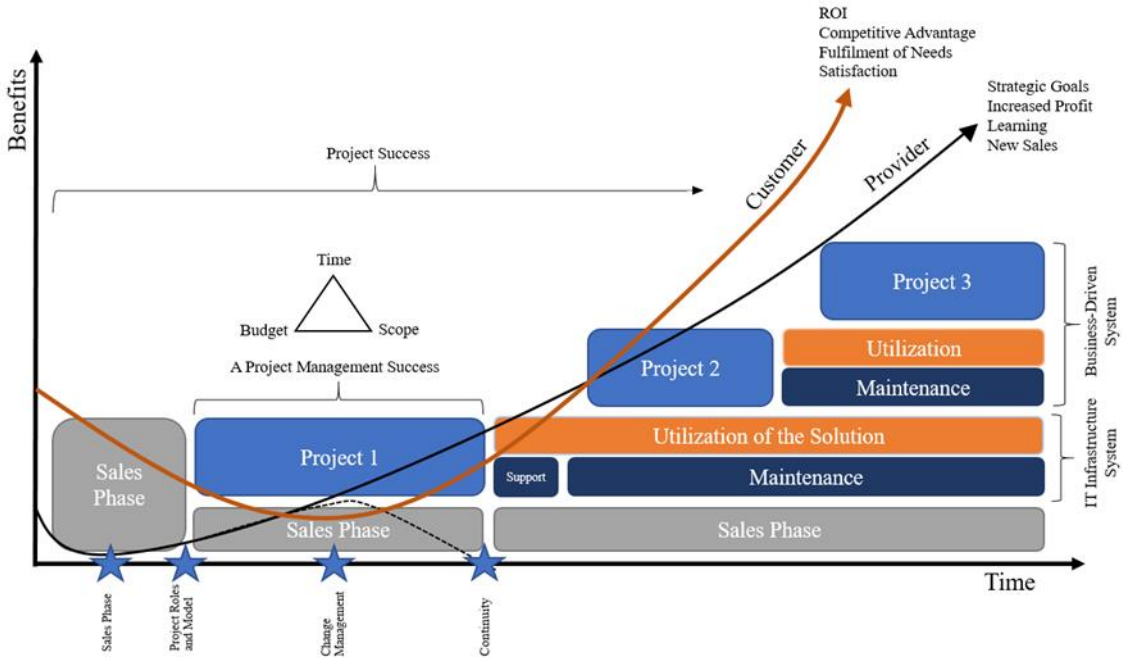

Figure 8. *The Summary of Findings Regarding Benefit Realization and Project Success*

The supplier's benefits start to develop after the sales phase, since the first realization practices are done during the sales. The customer's benefits may have developed before a project when the need for a new process was defined, but the actual development starts

during the project when the actual needs and the solution are refined. Actual benefits are mostly realized after the projects, and most of the benefits are realized during the system's life-cycle when the system is utilized. A maintenance phase and new projects will generate even more benefits.

The sales phase is critical for both supplier and customer. Most of the supplier's benefits are strongly dependent on the sales phase of the project. Therefore, it is crucial that the sales phase offers good starting points for the project to succeed. Similarly, the customer should strive to find a supplier that offers the best solution for the customer's business pain and continues development to fulfill the needs. Therefore, it is crucial that the sales phase takes the benefits into account, and that the realization of the benefits is planned already in the sales phase. The business case in the sales defines whether the project supports both the customer's and the supplier's desired benefits.

The project roles and project model are also crucial parts of benefit realization in several ways, thus these have to be defined at the beginning of the project. Clear roles and a suitable project model were often requirements for the successful execution of a project. Both customer and supplier have to understand own roles, responsibilities and how the project is executed to achieve the benefits more efficiently. The misunderstandings of roles and misuse of project models were mostly identified as complication factors for benefit realization. The results of the empirical study indicate that there are different roles that are responsible for benefit realization. However, it should be clear who is responsible for each benefit during the project.

The change management process is the key factor for benefit realization in two ways: change management in the customer's organization and change management in the project. Both of these change managements are crucial for benefit realization; in the worst case scenario neither customer nor supplier achieve future benefits if change management is not done. For a customer the project itself is a change, hence it requires change management. The sooner change management starts in the customer's organization, the better the results and the benefits. In addition, the project has its own change management process where changes relating to the project are agreed and executed. This process is crucial for both supplier and customer, therefore it is important that the change process is understood and agreed. Instead, the change process was often misunderstood and considered to be a failure. However, a good change management process ensured that future benefits were achieved and that needed changes for the benefits were implemented. For instance, the customer's actual needs were refined during a project, thus the project scope had to be changed to meet those needs. For the supplier, the change ensured that the result met customer expectations and thus generated customer satisfaction and new sales. For a customer, the change required investments but also ensured the benefits in the end, and hence project success.

Lastly, continuity is the most crucial part of a project regarding long-term benefit delivery. A supplier will benefit from continuity with the same customer by creating a long-term customer relationship, and with the same business or solution by offering similar projects to other customers. For a customer it is crucial that the use of the system and the fulfillment of needs also continue after the project. The solution is produced for the customer in a project, but after the project the customer has to ensure that the solution is fully utilized to achieve competitive advantages and ROI. The empirical study showed that customers are often willing to invest in support from the supplier to ensure the use of the product. The additional support project is a sales opportunity to ensure the continuity of the relationship that benefits both parties. It enables better integration of the system and follow-up for the benefits of supplier and customer. Generally, the supplier and customer should always focus on how the relationship continues in the long run, and thus how greater benefits are realized.

The first IT project for a customer is often a IT infrastructure system such as ERP or CRM. These solutions do not offer actual competitive advantage or significant return on investment. Instead, the system allows the customer to develop business-driven systems that bring the competitive advantage and return on investments. Therefore, the subsequent more business-driven projects, such as a reporting project, will realize benefits and deliver the value for the customer's business. These business-driven projects are also crucial for the supplier, because the most desired benefits are realized only then. It means that the most successful projects and thus the best references are achieved through business-driven projects. Therefore, the first project should be executed to achieve continuity with the customer, which has already been done by the supplier in several of the cases in the empirical study. Similarly, the customer should invest in IT projects more the infrastructure system to achieve the desired end-benefits. In the end, both parties will achieve the most benefits by continuing the relationship after the first project.

4.4 Recommendations for the Target Company

The target company is targeting better project success, therefore this study was executed. The empirical study of benefit realization pointed out several recommendations on how the target company may improve its project success by focusing on the realization of benefits. The following chapters provide recommendations on how the success of projects could be improved.

Clarify the Common Interest in the Project

All project stakeholders generally have the same interest, fulfilling the customer's needs, which also enables the realization of the other benefits and thus project success. It is important that all project stakeholders understand the flow of benefit realization and what this realization requires. No benefits are realized without investments, thus a project cannot be successful without the commitment of the stakeholders. Therefore, I suggest that the desired benefits and their realization should be discussed and planned already at the beginning of the project. The discussions should be held both with the customer and internally in the supplier company. Thus, contradictory goals can be avoided, and a common understanding can be achieved how to execute a successful project.

Sales Phase

The sales phase defines the projects and what benefits can be achieved. Therefore, the sales manager should be aware and responsible for the desired benefits. I suggest that the target company defines a reward system to ensure that the sales manager and the project's benefits are aligned. Otherwise the sales managers will just target a larger deal in terms of revenue, and disregard desired benefits as well as challenges that may occur in the delivery phase. There could also be a process where the delivery organization agrees or "signs off" the project and its scope, schedule and budget before the sales manager presents the final offer to the customer. In addition, the change management process regarding the offered scope must be defined unambiguously.

Project Roles and Model

The roles should be clarified in the organization and at the beginning of projects. It should be clear who is responsible for benefits, and how the project model works. The project manager's role is critical, because it ensures that there is alignment with the stakeholder's roles in the project. The project manager must have a profound understanding of the specific project model and how to implement it in practice in co-operation with the customer. In the end, it is the project manager's job to ensure that the project is executed according to plan. Therefore, I suggest that the importance and challenges of project roles, project models and benefit realization should be discussed with project managers. The project manager needs the ability to lead and to utilize the steering group, as well as to exploit the change management approach according to the agreed process.

Change Management

Change management is the key practice for benefit realization, therefore it should be a central part of projects. The supplier and customer should actively suggest needed changes. Thus, the changes ensure that the final solution meets the customer's expectations. From the supplier's side, the project's change management process controls that there is no disconnect with the customer on the agreed project scope, and that all changes to the scope results a new offer that must be agreed by the project steering group. The target company should encourage the project manager to do change management, and ensure it through a reward system regarding hour price of the project. Similarly, the customer should be encouraged to do needed changes in the project. The changes require that all stakeholders have a common understanding of the scope, budget and schedule. The project manager should always ensure that the supplier and customer have a common understanding of the change management process and its pros and cons.

The customer should also implement internal change management. Excellent customer change management ensures that the customer will change operation models toward the desired state enabled by the IT solution. Change management should start as soon as possible to enable the needed change and ensure the benefits. Therefore, the supplier's sales managers and project team should remind the customer that the project is even a bigger investment for the customer than just a delivery project. The supplier could offer change management or a support project as an additional service.

Continuity

Continuity is the most crucial practice for the long-term realization of benefits. Therefore, the supplier or customer should never focus only on one project. The project should be considered as a part of a bigger goal. A project that does not exceed scope, budget and schedule might be a success in a wider context. Therefore, the supplier should target more successful customer relationships, market achievements or product development. For instance, the supplier might do one unprofitable project where a product is developed. The crucial information is whether the projects developing the product are generally successful and worthwhile. Thus, the reward system should take into account upper level success regarding customer relationships, products, and markets. Similarly, the customer should focus on the long-term target and how it can be achieved with the supplier. I suggest that the supplier starts already in the sales phase and during the project discusses the greater goal with the customer, how the first project is part of it, and what has to be done after it.

4.5 The Evaluation of the Construction

The target company's CEO, Executive Vice President of business development and Quality Director evaluated the construction of the empirical study and the suggested recommendations for the target company. All of them believed that the results are applicable to the target company. The created frameworks reflect the current situation of the company and its pain points with its project business operation model. Thus, all management representatives confirmed that the results are valid and useful for the target company.

According to the representatives, no contradictions between the company´s business and the recommendations were identified. Some recommendations require further details in order to be successfully implemented in the organization. However, the recommendations with a scientific justification provide confidence to start acting. The results and the recommendations will be taken into account in further development, and the target company is able to pursue better project success based on the results and recommendations of the study. Generally, the representatives thought that the created frameworks and results answer the goal of the study, and that relevant recommendations were provided. The representatives specified that the natural next step is practical implementation plan.

5. DISCUSSION

5.1 IT Project Success

A project is defined as an entity of multiple tasks to execute a change in budget, schedule and scope (Lewis 2002; Artto & Kujala 2008). Therefore, projects have commonly been evaluated based on the iron triangle measurements within a defined time period. Budget, time and scope are important measurements in the execution of a project, and the majority of the supplier's business managers and project managers identified them as success criteria for a project. However, nowadays it is not enough for suppliers or customers to invest in projects without greater goals. The empirical study demonstrates the same fact than other authors (Lin & Pervan 2003; Päivärinta et al. 2007) have identified: projects are part of organizational goals and strive to make a change to achieve the desired state. Thereby, current literature (Atkinson 1999; Ika 2009; Serra & Kunc 2015) as well as the empirical study prove that the desired benefits are more important than the traditional iron triangle. Projects can be successful although they end up exceeding their budget, time and scope.

Each project is unique, hence there is no universal framework for project success. The studies of project success and BRM have identified several desired benefits that are summarized in Table 3. Table 7 is based on the results of the empirical study, which prove that the created framework of benefits in Table 3 includes all the relevant benefits for IT customer delivery projects. However, the empirical study shows that stakeholders define success based on only a few benefits and the iron triangle measurements. In addition, the success criteria vary between projects and stakeholders. Figure 7 shows which benefits were considered important by each stakeholder, and the identified connections between those benefits. The fulfillment of customers' business needs is a desired benefit of all stakeholders, hence they have a common interest in a project. As Figure 7 shows, the fulfillment of business needs as well as several other benefits may also be a benefit realization factor. Thereby the realization of one benefit might be a requirement for another benefit.

5.2 Benefit Realization in IT Customer Delivery Project

Benefit realization practices vary between projects and benefits. However, common benefit realization practices were identified from projects unlikely Ashurst et al. and Smith et al. noted in 2008. Appendix C summarizes the identified practical benefit realization practices for each benefit from Table 3. The practices include similar factors than Pinto and Slevin (1987) identified and that were listed in subchapter 2.3.2 as

common critical success factors for iron triangle measurements. The factors were not identified as crucial practices for all benefits, but each CSF by Pinto and Slevin was considered important for some benefits. Serra and Kunc (2015) proved that benefit realization practices have a positive impact on project management success. Based on this study and Appendix C, the identified connection between benefit realization and project management success can be supplemented by stating that CSFs have a positive impact on benefit realization.

Benefit realization literature commonly argues that the realization of a benefit often requires a change (Ward et al. 1996; Lin & Pervan 2003; Ashurst et al. 2008; Coombs 2015). The results of the empirical study show that a change is indeed frequently required, for instance, when a project strives to achieve better profitability or users need to change their way of working to fully utilize the IT solution. However, not all the benefits require a change. Some benefits are realized along with the project, such as professional learning, that may happen in a project even though practical changes are not made. But in the big picture, a project is always a change process that allows the realization of benefits. Serra and Kunc (2015) and Ashurst et al. (2008) noted that sometimes the change may require trade-offs or cause negative outcomes, such as additional costs. Similarly, the results of the empirical study show that the realization of benefits requires investments, such as money, time or resources. A project can be executed without additional investment, but very likely without realizing any benefits. In other words, predefined budget, time and scope can be achieved, but that does not mean that the IT solves customers' business pain, the supplier's profitability is improved, the customer is satisfied, or new sales opportunities are created. The empirical study of benefit realization practices proves that benefits requires investments from all stakeholders. In the worst case scenario, a customer and a supplier are not prepared to invest in benefit realization, thus the realization will not take place or the realization practices impact the project's budget, time and scope. Thus, benefit realization practices may have a negative impact on CSFs, which does not support the findings by Serra and Kunc (2015).

The difference between CSFs and benefit realization practices is that the realization of benefits may take longer. The empirical study as well as other studies of BRM (Shenhar et al. 2001; Agarwal & Rathod 2006) show that the realization of desired benefits takes time, and that the benefits are not always realized during a project. The realization of benefits may start before or after a project. For instance, the empirical study shows that for a supplier the sales phase before the project is crucial to achieve the strategic goals or increased profit. However, these benefits may not be realized fully in the sales phase, and the actual realization and value are only achieved several projects down the line. But the first project and its sales phase may have been the crucial practice to achieve the other projects, and thus the benefits. Benefit realization may also start immediately after a project ends. For example, the use of the solution starts fully when the project ends. Therefore, the actual competitive advantage or ROI cannot be realized if the IT solution

is not used in the organization. The empirical study shows that the benefits are realized before, during and after a project and thus, that the project cannot be evaluated based on the time between its start and end date. The impression of a project's success may change over time, and cannot be limited to a certain period of time.

Project management success is often considered as the project manager's responsibility. However, the empirical study indicates that the delivery of benefits cannot only be the project manager's job. This is rather obvious, as the realization of benefits is not done fully during a project. The studies of benefit realization suggest that the realization role should be assigned to a certain person (Dupont and Eskerod 2016). However, the results of the empirical study show that different roles are responsible for benefit realization, e.g. the sales manager, steering group, business managers, customer and project team. Hence, the responsibility for the realization is shared between all stakeholders and individual practices are pointed to specific roles. Figure 9 summarizes the general level answer to the first research question. Appendix C defines the same answers for each benefit. The realization factor defines more specifically who is responsible for the benefit realization.

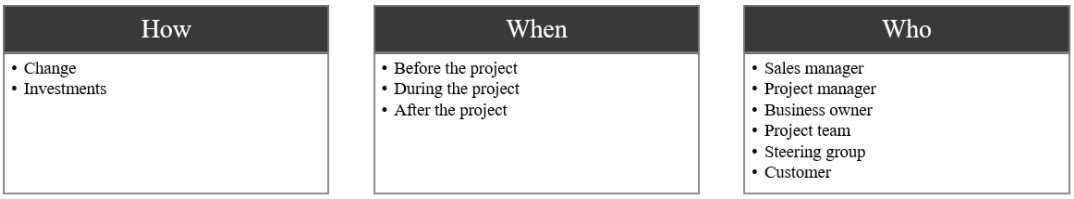

Figure 9. *The Summary of How, When and by Whom Benefits are Realized*

The empirical study identified several realization practices for benefits. The diverse sample of projects may have had an impact on the variety of benefits. However, the empirical study identified four common phases that were identified for most of the benefits. Thus, the following practices are the most vital for benefit realization:

- Sales phase,
- Project roles and models,
- Change management, and
- Continuity.

First, the sales phase was commonly considered crucial for benefit realization. Similarly, Ashurst et al. (2008) identified that a business case is required for benefit realization, which is done in the sales phase. The empirical study showed that the project roles and model had positive as well as negative impacts on benefit realization. Ashurst et al. (2008) identified that it is important to establish an adaptive project life-cycle to realize the

benefits. Similarly, the results of the empirical study suggest that the roles and the project model should support benefit realization. Moreover, change management was identified as crucial in the project and the customer organization. Ashurst et al. (2008) suggest that work and organizational design have to change to realize benefits. The project has to be able to make needed changes to ensure the desired benefits, and the customer organization has to manage the change that the IT solution provides. The changes have to be implemented actively, and require training and education in the customer organization (Ashurst et al. 2008), which was also proved in the empirical study. Lastly, continuity ensures future benefits after the project. The empirical study shows that the realization of benefits continues after the project; thus the continuity of the customer relationship is often vital for continuous benefit realization. Similarly, the study by Serra and Kunc identified that organizations have to ensure benefit realization by monitoring the outcomes after the project ends (2015). Figure 8 summarizes the conclusion for benefit realization.

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6. CONCLUSIONS

6.1 Achievements of the Study

This study was conducted for a Nordic IT company to increase the understanding of how an IT customer delivery project succeeds. The current understanding of project success is mainly based on iron triangle measurements (Wateridge 1997; Carlson & Kunc 2015), even though the desired benefits are relevant parts of the project's success (Atkinson 1999; Bryde 2005; Ika 2009; Serra & Kunc 2015). Literature lacks empirical studies of benefit realization practices (Päivärinta et al. 2007; Ashurst et al. 2008; Hellang et al. 2013). Therefore, the object of this study was to understand how and when project stakeholders experience the realization of business benefits in an IT customer delivery project, and what are considered to be crucial practices for benefit realization. Hence, this study fulfills the understanding of project success in current literature and target company.

First a literature study was made to create a frame for the empirical study. Based on that, eleven benefits were identified. Subsequently a case study of nine IT customer delivery projects was executed to create a good understanding of benefit realization. As a result of the study, new frameworks for benefits and benefit realization were created. The results of the study reflected the target company's current situation, and thus the results were considered valid. The recommendation provided for the target company in subchapter 5.3 will be taken into consideration in the target company, but similarly also other companies may consider the recommendations. The results and recommendations are presented on a general level without taking specific customers, projects or individuals into account. Therefore, companies in the same field may benefit from the results.

Generally, projects have several stakeholders that have their own interests, objectives, and needs (Artto et al. 2007) and thus understanding of success in a project. This study took into account a customer's business managers, a customer's project team members, the supplier's business managers, and the supplier's project team members by interviewing representatives from each group. Thereby, this study created a good understanding of success and its benefit delivery based on the standard stakeholders of a project. The created framework for benefits in Figure 7 shows how the identified benefits in Table 3 are divided between the stakeholders. A new finding was that there are common benefits for all stakeholders, such as fulfillments of business needs, and some role specific benefits for supplier and customer. All benefits may have an impact on other benefits, therefore some benefits are crucial for the realization of another benefit. For instance, the competitive advantage of an IT system will not be realized if the system is not used. Thus, it is crucial that the connections of the benefits are known between stakeholders when setting the desired benefits for the business case.

Realization practices differ between benefits. On a general level, the benefits were not realized during the projects, and the understanding of the success evolved even after the projects. There was no a specific role that was responsible for benefits. Instead, each benefit realization practice had its own responsible role. Benefit realization as a long-term process is pictured in Figure 8. The first project is crucial for the benefits, but most of the benefits are only realized after the project ends. The empirical study identified the following phases as the most crucial for benefit realization:

- Sales phase,
- Project roles and models,
- Change management, and
- Continuity.

The recommendations for the target company were mainly based on these practices, since these were considered the most crucial phases for benefit realization. In addition, the good practices for each benefit are summarized in Appendix C. The timing, responsible role and needed investments are specified for all benefits to provide the answer to the research questions. The realization of benefits required investments from all stakeholders. It is also important to understand that no benefits are realized by a project if the stakeholders are not ready to invest in the realization. The project may deliver an IT system in time, on budget and in scope, but if none of the benefits are realized, can it even be a successful project? At least in the long run, no.

6.2 Limitations

The literature study mainly focused on the literature on benefit realization management and project success. Therefore the frameworks that were created from the literature are only based on the used articles. Other literature may have identified other benefits or approaches to the project success. However, the empirical study supported the created framework.

The empirical study was done for the target company's projects. As only one organization represents the supplier, including other organizations may have resulted in more varied opinions and practices. However, this study was executed to improve the target company's understanding of project success, and thus the information was relevant for the target company. Despite that, the diversity of the project sample was quite wide regarding project models, size and delivered solution. On the one hand, the sample of projects should have been bigger to evaluate the impact of project type and size. On the other hand, the sample of nine projects was quite large, as several roles were interviewed from each project. Hence, the sample could have included more similar projects. A sample of similar projects would have given a better understanding of why some answers

differed – are they project specific or do they depend on the project type, size, solution or customer?

However, similar practices were identified from the interviews, and the comparison between benefits and stakeholders was easy with the created note framework. However, the results were based on notes and the interviews were not transcribed. Transcribed interviews could have offered additional value for the data analysis, but the number of interviews would have made the analysis even more difficult.

Generally, the interviews included much specific discussion about projects that were about to end or had ended. The thoughts and feelings may have changed during the project, and the interviewees might not have remembered all important aspects of the project. In addition, the interviewees were not prepared for the interviews and the benefit realization approach was quite new to some of them. Therefore, the interviews were a rather short time to remember all relevant factors and process the new aspects. Some interviewees answered the questions very formally as the interview was recorded. Altogether, the results may have missed some important aspects, however, the 39 interviews made sure that crucial things were not left out.

6.3 Further Research Topics

Benefit realization management is quite a new approach in project success literature (Farbey et al. 1999), hence it is full of interesting research topics. However, the empirical study in this thesis also identified a few interesting future research topics:

1. **How do project type and size impact benefits and the realization process?**
   The empirical study already identified some differences between project models and project sizes. A bigger sample of different projects would offer an interesting research opportunity to compare the benefits and the realization process. There is clearly a need to study how project type impacts benefit realization management in IT projects.
2. **What factors impact on the realization practices?**
   This study identified practical realization practices for the benefits, but in addition the interviewees identified more specific factors for each realization practice. The study should have a more homogeneous sample of projects to avoid the impact of project types, thus this is a research opportunity to identify the crucial factors for benefit realization practices.

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APPENDIX A: VOCABULARY OF THE THESIS

Benefit is a positive and expected outcome of a change that creates business value in the long run.

Benefit realization management (BRM) is a process that is created to realize benefits.

Business-driven system is a system that is developed on an IT infrastructure system to fulfill business needs.

Business manager is the business owner. The supplier and customer have their own business owners in a project.

Competitive advantage is a desired benefit that makes a company more competitive.

Customer is an organization that has ordered a project from a supplier.

Customer satisfaction is a desired benefit that measures how satisfied the customer is with the project.

Efficient use of the system is a desired benefit that measures how efficiently the new system is used.

End-benefit is a desired benefit that is realized only if another benefit is realized first.

Fulfillment of business needs is a desired benefit that measures how well the delivered solution has fulfilled the customer's needs.

Increased profit is a desired benefit that has increased the profitability level of a project.

IT customer delivery project is a project where a supplier company delivers an IT solution for a customer company.

IT infrastructure system is an IT infrastructure, such as ERP or CRM.

New sales is a desired benefit that means that the business continues with the customer, or the company acquires a new customer since the project has gained commercial success for the company.

Organizational learning is a desired benefit where learning from a project happens in the organizational level.

Professional learning is a desired benefit that considers how the project team members are able to improve their professional skills.

Project management success is based on traditional iron-triangle, budget, time and scope, measurements.

Project team member is any team member of a project execution team. The supplier and customer may have their own project teams.

ROI, return on investment is a desired benefit that bring a return for an investment.

Scrum is an agile project management model.

Supplier is a company that offers and delivers IT solutions for a customer company.

Strategic goal is a desired benefit that fulfills the organization's strategical goals.

Team satisfaction is a desired benefit that evaluates the satisfaction of the supplier's project team.

APPENDIX B: INTERVIEW FRAME

Background Information:

1. Name of the interviewee
2. Role of the interviewee
3. Role in the organization
4. Project

The interview frame:

First the project is generally discussed with the interviewee. After that the following questions are discussed.

1. Which grade would you give for the project regarding success? (1-5)
2. What criteria defined the grade that you gave?
    a. What factors impacted the grade positively?
    b. What factors impacted the grade negatively?

Based on the answers the scope of the study is discussed and other identified benefits for the specific role are presented.

3. Are the suggested benefits relevant for the project's success?
    a. If yes, why?
    b. If no, why not?

Next each benefit is discussed separately and the following questions are asked.

4. How well has the project achieved the benefit? (1-5)
5. How was the benefit realized?
    a. When was the benefit realized?
    b. Who was responsible for the realization?
    c. Did the realization required any investments?

Lastly, the interviewee had an opportunity to give general feedback for the target company and to mention potential room for improvement.

APPENDIX C: GOOD PRACTICES FOR BENEFIT REALIZATION

	Factor	Who	When	Investments
Fulfillment of Business Needs	Common understanding of the need -sales Phase -change management	All parties	Before the project, during the Project	Money, time, resources
	Common interest	All parties	During the project	N/A
	Project model	Supplier, customer	During the project	N/A
	Change management	Customer, supplier	During the project, after the project	Money, time, resources
	Continuity	Customer, supplier	After the project	Money, time, resources
Customer Satisfaction	Project management: - communication - project teams - project model - power to make decisions	Supplier and customer	During the project	Money, time, resources
	Roles' commitment	Customer	During the project	Time, resources
	Management support	Business managers	During the project	Time, resources
	The fulfillment of the business needs	All parties	After the project	Money, time, resources
Efficient Use of the System	User roles part of the project	Customer	During the project	Resources and Time
	Change management	Customer, supplier	During the project	Time, resources
	Training and support	Customer, supplier	After the project	Money/time and resources
ROI and Competitive Advantage	IT infrastructure	Customer	Before the project	Money, time, resources
	Fulfillments of business needs - sales phase - change management	Customer/supplier	During the project	Money, time, resources
	Use of the system	Customer	After the Project	Money, time, resources
	Business driven projects	Customer	After the Project	Money, time, resources

New Sales	Starting points for the project from the sales phase	Sales manager	Before the project	N/A
	Change management in the project	Project manager, team members, sales manager, steering group	During the project	Money
	Well executed project: - quality - good project manager and team - project model - good customer relationship	Project manager	During the project	Time, money, resources
	A good customer relationship	Project manager	During the project	Time
	Customer satisfaction	Supplier	During the project, after the project	Time, money, resources
	The continuity through reference	Sales manager	After a project	Time, money and resources
Increased Profit	Sale phase enabling the reuse of project intelligence properties	Sales manager	Before the project	Time, money
	The role of the project team	Project team	During the project	N/A
	Change management in the project	Project Manager	During the project	N/A
	Good quality	Project team	During the Project	Time, resource
	Continuity with the customer	Sales Manager	After the project	Time, resource
Strategic Goals	Sales control in the sales phase	Business managers, sales manager	Before the project	Money, time and resources
	Successful execution of a project	Supplier	During the project	Time, money, resources
Organizational Learning	Project roles, an active project manager that is capable to share learnings	Project manger	During and after the project	Time and resources
Professional Learning	Sales case	Sales manager	Before the project	Time

	Active suggestions	Project manager, project team member	During the project	Time
Team Satisfaction	Motivating cases from the sales phase	Sales manager	Before the project	N/A
	Team members	Sales manager, project manager	Before the project, during the project	Resources
	Feedback from customer	Customer	During the project	N/A
	Success	Supplier	During the project	N/A