



UNIVERSITY OF GOTHENBURG

# **The Project Management Triangle: a hidden framework?**

**A qualitative study of ERP implementations in Sweden**

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## Abstract

Over the years, it has shown that not all system implementations have turned out successfully. ERP-systems are commonly seen as vital to organisations since they support their core activities. Hence, one can imagine that ERP-systems are substantial system solutions, and that projects within its field require project management to a great extent and we stress the importance to search for supporting tools in this process to preclude failure. The project management triangle is a framework generally used for controlling three main factors that have proven to affect the total success of a project; time, cost and scope. The aim of this report is to investigate the framework's relevance when it comes to ERP-implementations. Therefore, we inquired how relevant is the project management triangle framework during implementation of ERP-systems? To do this we conducted several interviews and more casual forms of dialogs together with employees and customer at an IT-company specialised in ERP-implementations. We then presented and analysed the findings by applying a triangulation method. Later on, we compared the findings to the literature and discussed the results, which lead on to our conclusion. It has shown that the factors are evident in the context of implementing ERP-systems, despite the fact that they are not frequently uttered and put in relation to each other. Therefore, we argue that it is important to develop a greater understanding regarding how these factors relate to and affect each other, something that the framework can support during the implementation.

Key words: ERP, project management, implementation, project management triangle

## Sammanfattning

Det har under en lång tid visat sig att en stor del systemimplementationer misslyckas. ERP-system ses som en vital del i en organisation på grund av att de stödjer dess kärnaktiviteter. Detta leder till att ERP-system är väsentliga systemlösningar och att projekt inom detta område kräver hög grad av projektledning. Vi trycker därmed på vikten av att söka efter verktyg som kan stödja denna process och på så sätt förebygga misslyckade implementationer. Projekttriangeln är ett ramverk som vanligtvis används för att kontrollera de tre huvudfaktorer som påverkar den totala framgången av ett projekt; tid, kostnad och funktionalitet. Syftet med denna rapport är att undersöka relevansen av detta ramverk vid ERP-implementationer. Därmed ställde vi oss frågan, hur relevant är projekttriangeln under implementation av ERP-system? För att undersöka detta genomförde vi ett flertal intervjuer och mer avslappnade former av dialoger tillsammans med anställda och kunder till ett It-företag som specialiserar sig på ERP-implementationer. Därefter presenterade och analyserade vi våra upptäckter med hjälp av en trianguleringsmodell. Dessa upptäckter jämfördes sedan med litteraturen och diskuterades, vilket ledde fram till vår slutsats. Det har visat sig att dessa faktorer är uppenbara i kontexten av ERP-implementationer, trots det faktum att de inte frekvent uttalas och sätts i relation till varandra. Därmed menar vi att det är viktigt att utveckla en bättre förståelse för hur dessa faktorer relaterar till och påverkar varandra, något som ramverket kan stödja under implementationen.

Nyckelord: ERP, projektledning, implementation, projekttriangeln

# Preface

We would like to thank the IT Company Inc. for the support they have given and helping us with finding suitable contacts for the interviews. We would also like to thank all of the informants who took the time to participate in the interviews and provide us with great answers to work with.

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# 1. Introduction

Twenty years ago, the Standish Group presented the CHAOS Report, and with it explaining the issue, regarding failed software development projects. The data was split into three categories; *successful* (delivered on time, on budget, with required features and functions), *challenged* (late, over budget, and/or with less than the required features and functions), and *failed* (cancelled prior to completion or delivered and never used) (The Standish Group 1995). In 2013, they presented a CHAOS manifesto, presenting 2012 year's data, noticing a change in the number of successful, challenged and failed projects since 1994. The percentage of successful projects has increased from 16,2% in 1994 to 39% in 2012 and the amount of failed projects has almost been halved from 31,1% to 18% during the same period. Between 1994 and 2012 the amount of challenged projects remains quite high even though there has been a slightly decrease from 52,7% to 43% (The Standish Group 1995; The Standish Group 2013). Even though there has been an increase in successful software development projects, the percentage of challenged and failed projects still add up to the greater number.

The Standish Group base the statistics presented in the CHAOS reports on three factors: time, budget and required features and functions. These factors are of great importance for a project and are all covered by the framework *the Project Management Triangle* (from now on referred to as PMT) which will be further described later on.

## 1.1 Background

Using the PMT framework within project management has been common for many years (Cobb 2011). Lester (2007) describes that one can separate management from project management, simply by assuming that management relates to ongoing business routines, while project management exclusively has to do with change. Another aspect worth mentioning is that management is often associated with preventing and adapting to unwanted changes, whereas project management has to do with proactive work in relation to planned or necessary change. Having a starting/finishing point and some specified objectives is something that applies to most projects. However, these objectives should meet the criteria carried out by the PMT framework (ibid.).

Companies today tend to utilise Enterprise Resource Planning-solutions (hereafter "ERP") to a great extent and they often play a central role throughout the organisation (Computer Sweden 2014) as they integrate and automate many or most of a firm's business processes (Gattiker & Goodhue, 2005). Looking at numbers concerning ERP adoption will show that companies value what the systems have to offer. When it comes to medium and large companies, the adoption of ERP-system is approximately 75 percent for manufacturing, 60 percent in services and 80 percent among Fortune 500 firms (ibid.). However, even if many companies tend to implement an ERP-solution, the failure rate of ERP-projects is still high. Liang, Saraf, Hu and Xue (2007) largely ascribes the reason for this to the complexity of ERP-systems.

## 1.2 Problem discussion

Looking into literature about project management one will come across the PMT many times and it is clear that, even considering the age of the framework, it is still well established and of use to project managers. However, that does not save it from criticism and as Cobb (2011) points out, assuming that the content of the scope is going to provide business value is a very big assumption. He further states that project managers too often focus on the constraints of time and cost, forgetting about the value as if it takes care of itself. In addition to this, some project managers tend to focus on the scope and detailed requirements instead of the end value they will deliver (ibid.).

This may very well be the issue, but as McGhee and McAliney (2007) explains:

*“One of the three sides of the triangle will be the primary project driver - the one variable to which the other variables will be subordinated or sacrificed.” (p. 23)*

This statement is confirmed by Tonnquist (2007) who argues that it is important to know which factor that is the most vital to the project and where to make compromises if the project fails to follow the original plan. He further describes that it is important to remember that the goal of a project is to be either good, cheap or fast, meaning that only one factor can be the highest priority.

The fact that the amount of members within the PMI (Project Management Institute) between 1998 and 2013 increased by 1000% indicates an emergent awareness of the project management's relevance (Stoshikj, Kryvinska & Strauss, 2013). Hence, this calls for an ongoing search for new but also development of existing project management techniques (ibid.). Even though different frameworks enlighten different point of views that have shown to be important throughout history, we also stress the importance of a continuous search for new aspects that could be relevant. Relating this approach to ERP-systems and how to manage projects within this field is the major interest of this paper.

When researching information about the PMT, one will come across that attempts to alter the framework are not unusual. For example, Cobb (2011) argues that the traditional PMT-framework needs adjusting, making it suitable for projects that are more agile where the focus on providing value for the customer is more important than delivering the desired functions. Furthermore, Lester (2007) points out that despite the fact that the PMT constitutes of three major factors, it has shown that it is usual to make adjustments according to relevant aspects of the individual industry or a project's intended outcome. Briner, Hastings and Geddes (1996) also argues that the traditional PMT-framework in itself is not enough. They put the triangle inside a circle and thereby saying that additional factors have always existed but have become more and more important. The three outer factors are *external or commercial pressures, organisational politics and personal*

*objectives*. They argue that a project always has its centre somewhere within the triangle, and that the size and position of the outer segments vary for every project (ibid.).

The PMT framework has, as previously described, been criticised and revised before. There has not been much research regarding the PMT framework in relation to ERP-systems, thus the focus of this report is on the framework's relevance during today's implementations of ERP-systems.

### 1.3 Purpose and question at issue

The purpose of this paper is to investigate and analyse whether or not the PMT framework is still relevant when implementing ERP-systems. Furthermore to research which aspects that captivate the minds of those who come in contact with the constraints presented by this framework during adaptation of a specific system solution; in this case ERP-systems. The intention of this report is to aid future implementations of ERP-systems in achieving successful results. The emphasis of the study is to evaluate the framework in relation to ERP implementations and to research if there are aspects within its field that are of great importance. Hence, we formulate the question:

*How relevant is the project management triangle framework during implementation of ERP-systems?*

#### 1.3.1 Delimitations

Throughout the study the focus is mainly on ERP-projects, hence any further attention has not been given to other kinds of system solutions. We are well aware that the PMT is just one of many frameworks used for project management. However, the choice of having the PMT as a focus for this report is based on the strong foundation in the PMT-framework with its three ground pillars, time, cost and scope and them being crucial factors for the success of a project.

The study is limited to a case study of a single company and their way of running projects implementing Microsoft-based ERP-solutions (Microsoft Dynamics NAV). Furthermore, the persons studied are either project managers, consultants or customers in the context of an ERP implementation. We do not include other people in this study, since we do not expect to be able to investigate further aspects within the time at our disposal.

### 1.4 Disposition

Throughout this report, a certain structure has been followed. Hence, describing the various chapters below will give an overview of the contents of this report.

Chapter 2 presents the theory underlying the work, split into two sections. The first one introduces the reader to ERP-systems and the challenges that exist when implementing these systems. The second part presents the PMT framework and its factors and how it relates to system implementations. This chapter will help the reader to reach an



understanding of the two sections and how they relate to one another. This information will then build the foundation for the forthcoming empirical study and the following analysis and discussion. The data gathering was based on interviews with four informants, all with different backgrounds and views on the issue. The method for conducting this work and analysing the data will be presented in chapter 3. The result from the empirical study will be presented in chapter 4. This result will then be compared to the earlier presented theory and analysed in chapter 5. In chapter 6, we discuss the analysis and the insights the work has led to. To sum up the report a conclusion, followed by a discussion of the relevance of the study and future research topics will be presented in chapter 7.

## 2. Theory

The theory chapter provides information regarding what an ERP-system is and to describe the PMT framework more thoroughly. By doing this we intend to illuminate the two fundamental parts of our question at issue and to acquire a greater understanding for upcoming comparison and discussion. To relate the framework to the specific system solution, we argue that describing characteristics of both parts will facilitate the overall reasoning.

### 2.1 ERP

For a long time, companies used to build their IT infrastructure based on unintegrated information systems that only supported the functions of specific business areas such as marketing, production etc. (Monk & Wagner, 2009). Having an infrastructure with systems that are unconnected to each other led to difficulties in sharing information, which in turn risked generating costly inefficiencies (ibid.). The solution to this was the Enterprise Resource Planning System, an integrated system covering all functional areas of a business and today these systems are running in the majority of the companies and organizations around the world (ibid.).

Companies use ERP-systems as a core software to coordinate their information. It is designed to process the transactions in an organization and facilitate integrated real-time planning (O'Leary, 2000). It also provides an integration across multiple areas in an organization and thereby leading to improved decision-making, which in turn can be used to help organizations create value (ibid.). The cross-functional processes of ERP-systems forces the organization to integrate their different business processes with each other, also leading to data from different heterogeneous systems being integrated into a single system (O'Leary, 2000; Monk & Wagner, 2009). The impact made by a system like the ERP-system that provide integration and standardisation, are influenced by the interdependence and differentiation between the subunits of the organisation (Gattiker & Goodhue, 2005). To gain value from a system like this, one must understand the intermediate benefits and the factors leading to these benefits, in order to explain the reasons for why certain overall impacts do or do not occur.

Davenport (1998) describe the impact an ERP-system has on an organisation by explaining that installing an ERP-system requires the organisation to adapt or completely rework their processes in order to be able to use the system. He means that it all comes down to making compromises between how the organisation wants to work and the way the system allows you to work. Therefore, when implementing an ERP-system, the questions cannot only be focused on how the system works or what the user interface should look like. Questions concerning change in the workers' daily tasks and their responsibilities is of equal importance (Vilpola & Väänänen-Vainio-Mattila, 2005). Davenport (1998) further explains that the complexity and the costs that comes with implementing an ERP-system hits everyone that installs them, but the problems that

can lead to disaster comes when an organisation implements an ERP-system without thoroughly thinking through all of its business implications. Akkermans and van Helden (2002) emphasize that collaboration between different departments within the organisation is important to take into consideration. Closely integration of various business functions is what separates ERP systems from many other system solutions (ibid.).

## 2.2 Issues with ERP-implementations

To facilitate the understanding of issues regarding ERP-implementations we firstly intend to describe what an implementation includes. After that, we will proceed by presenting some issues with implementations of this kind.

### 2.2.1 Implementation

Kim and Pan (2006) describes implementation as an ongoing process. They depict the content of this process as follows:

*“...the entire development of the system from the original suggestion through the feasibility study, systems analysis and design, programming, training, conversion, and installation of the system.” (p. 59-60)*

Furthermore, they emphasise the complexity of the implementation process by describing how the state of different factors may change over time. Thus, it is important paying attention to the interrelationships among those for a greater understanding of the entire process (ibid.).

### 2.2.2 Issues

The fact that many companies tend to implement an ERP-solution does not guarantee that they receive the benefits without having trouble in gaining them. ERP-projects have a high failure rate and the high level of complexity of these systems is often seen as the major reason for the large number of failed implementations (Liang et al., 2007). They describe the complexity as a result of the impacts that an ERP-system makes on organisational processes, structures and cultures being both broader and deeper than less complicated technologies.

Since ERP-systems are as large and complex as they are, installing them requires a large investment in time, money and expertise (Davenport, 1998). As explained earlier this has often been seen as the major reason for the large number of failed implementations (Liang et al., 2007), but in reality it does not have to be the case. The fact that companies often fail to reconcile the business needs with the technological requirements of the ERP system is more often the reason for a failed implementation rather than the complexity of the system itself (Davenport, 1998). Thereby it is important for an organisation or a company not to rush into an implementation of a new system without first having a clear understanding of the implications it will do on the business (Ibid.). Davenport (1998)

argues that one must not be blinded by the benefits presented by the company promoting the ERP-system but also take into consideration the importance of comparing the rewards and the risks.

The reason for these failures does not only depend on the fact that ERP-systems are complex, but also that the implemented system does not fit the organisation's needs (Ragowsky & Somers, 2002). ERP vendors might argue that their system will suit most organisations, but the benefits an organisation can derive from using a specific information technology is based on the characteristics of the organisation, meaning that not all companies will gain the same benefits from using the same ERP application (ibid.). They further argue that one must take into consideration that implementing an ERP system not only involves implementing a software, but also changes the organisation, business practices, and core competencies in the organisation. Ragowsky and Somers (2002) further describes that introducing a system into a company has the chance of making crucial difference between a successful organisation transformation and an abandoned project.

Since projects are usually managed by a project manager, who should pay attention to a variety of factors there has emerged several frameworks to support him/her. One of which is the PMT which, as previously described, has shown to include factors that are of great importance to a project's success. The PMT is a framework that appears in literature aimed at project management (Tonnquist 2007; Jansson & Ljung, 2004; Newell & Grashina, 2004) and will be presented below.

### 2.3 Critical Success Factors for ERP-implementations

Ward, Hemingway and Daniel (2005) explains how failed ERP-projects has given results like reduced earnings and declined profits, and even organisational bankruptcy. Considering the importance an ERP-system has in an organisation and the risks with implementing them, it is of great importance to be aware of the factors that can cause success and failure, and how to manage these factors (ibid.). As Bento and Carlos (2013) describe, many researchers have been studying the critical success factors in relation to ERP over the years while trying to find solutions and answers to the problem of ERP-failure.

As Akkermans and van Helden (2002) describe, a large amount of research has been made concerning critical success factors (further on referred to as CSFs) for ERP-implementations. They present the ten most important CSFs when implementing ERP-systems (Somers & Nelson, 2001 see Akkermans & van Helden, 2002, pp. 36), the first one being (1) *top management support*, describing the importance of involvement from top management, especially during the early stages of the project. Having a top management that delegates its responsibilities to other parties increases the risk of project failure. (2) The *project team competence* is often underrated, but has shown to be of great importance, especially when asking executives in the industry. (3) ERP-systems integrate different

business functions, and therefore it comes as no surprise that the *interdepartmental cooperation* factor has been highly rated. The fourth factor (4) *clear goals and objectives*, indicates that it is significant to have a clear picture of what one seek to accomplish throughout a project and how to reach those goals. On the other hand, Akkermans and van Helden (2002) emphasize that it is usually difficult to develop a keen understanding of this when it comes to ERP-projects. To overcome the complexity that comes with ERP-implementations one must use extensive (5) *project management*, and as the project and the organisation evolves, so should the project management. A project manager for an ERP-project need to be able to improvise and manage changes that occur over time. Another CSFs is (6) *interdepartmental communication*, which urge the need for communication across functional boundaries, especially for projects concerning ERP-systems since their primary objective is to integrate different business functions. (7) *Management of expectations* is important throughout all the stages of the implementation. Misalignment of the expectations is common and increases the risk of a failed implementation. Someone who can accomplish organisational change constitutes the eighth CSF, (8) the *project champion*. According to Akkermans and van Helden (2002), this experienced person possess great credibility within the organisation. Relying too much on outside (9) *vendor support* has shown to have a negative impact on the project's success. On the other hand, it is not common to have the required skills in-house. Therefore, it is important to have a balance between in-house skills and outside vendor support in order to increase the chances for a successful project. One size does not fit all, especially when it comes to ERP-systems. Some packages are more suitable for large firms, and some for smaller ones etc. Therefore a (10) *careful package selection* is of great importance. This selection is made early in the project, and making the wrong choices can result in a package misfit or a need for a major modification (ibid.).

When looking more closely into these factors, one can identify that they affect each other to a great extent, both directly and indirectly (Akkermans & van Helden, 2002). These factors can also influence the direction of the project; they are either all positive or all negative, leading to a project with either good or poor performance (ibid.).

The purpose of the CSFs is to minimise the risk of failing with an ERP-implementation; however, ERP-projects still experience difficulties and have a high failure rate (Ram & Corkindale, 2014). This has led to a number of authors raising questions whether these factors are useful and increase the chance for success and urge the need for further research regarding how critical they actually are for successfully implementing an ERP-system (ibid.).

## 2.4 Project management triangle (PMT)

The PMT illustrated below is a framework used when outlining the factors of time, cost and scope of a project (Tonnquist 2007). How well these factors are controlled and handled will affect the total success of the project (Newell & Grashina, 2004).

The quality of a project is reflected by the ambition level for the project's success (Tonnquist 2007). As a help in reaching the desired results Newell and Grashina (2004) presents three pillars; *time*; duration from the start of the project to the delivery of a complete result, *cost*; resources such as money, personnel, material etc. and *scope*; specifications for the finished result (see figure 1). It is important always to have a sorted and accepted agreement amongst the involved parties on which factor is the most important, and where compromises can be made if the project process does not go as planned (Tonnquist 2007). This because of one pillar always being the priority. He describes that increasing or decreasing the amount of focus on one of the pillars will lead to a compromise in the other two as well since the project management triangle always strives for balance (ibid.).

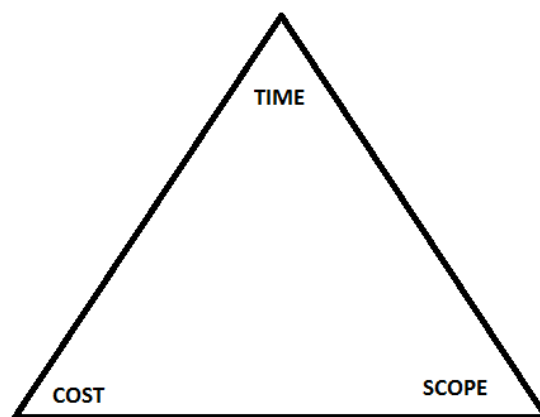


Figure 1 - The project management triangle (Source: Tonnquist 2007)

Stepping over the agreed limits on time and cost can cause the project to dissolve which makes it important for the priorities to be clear (Tonnquist 2007). These priorities are in most cases presented by the customer (Jansson & Ljung, 2004), and the customer is the one who decides what is most important and where compromises can be made if the project group fails to fulfil the original plan (Tonnquist 2007). He gives the example that having the quality of the product as the highest priority means that the result, the product, is more important than delivery time and expenses. Further, on if the time factor has the highest priority then the end date of the project is the most important and the result and the expenses will come in second hand (ibid.). Hence, having the aspects of the PMT, their priorities and limitations sorted at the beginning of a project is crucial for the chances of ending up with a successful result. However, it is important to keep in mind that the goals for scope, time and cost may vary in terms of their difficulty from one project to another (Lee, Keil & Kasi, 2012).

A problem when it comes to software development projects is the tension that exists between customers and developers regarding the factors of cost and time. Customers often want an aggressive budget and an early launch, whereas developers want enough

time and money to perfect their product before launching it (ibid.). Lee et al. (2012) further describes how this creates problems when setting the goals for budget and schedule. Another issue when creating appropriate goals is the difficulty to estimate the amount of work required to carry out the project.

Planning a project generally starts with outlining the scope. It is easier to establish the time and the cost for the project when both customer and developer agrees on the scope (Newell & Grashina, 2004).

#### 2.4.1 Scope

The Project Management Institute (2004) explains how the definition of the project scope and how it is managed influences a project's success. The scope of a project includes the deliverables of the project, all the work that has to be done in order to complete the project (Newell & Grashina, 2004). The scope requirements are based on the stakeholders' needs, wants and expectations on the project result (Project Management Institute 2004). The content of the scope varies depending on the complexity of the project; a critical project is more likely to have a formal and time intensive scope than a routine project. One way of documenting the scope is to make a project scope-managing plan, a plan describing the scope, how it will be documented, verified, managed and controlled (ibid.).

A problem when it comes to the scope is whether implementing it will generate value or not. Cobb (2011) means that too often the focus is on the time and cost factors and that value will be generated automatically, as if it takes care of itself. However, Newell and Grashina (2004) points out that many managers tend to implement more functions in an attempt to achieve higher performance at the expense of time and cost. Managers with this focus, to deliver many functions, also tend to forget about the end goal of value (Cobb 2011).

#### 2.4.2 Time

The time aspect of the framework includes the schedule for the work that will be done to complete the content of the scope (Newell & Grashina, 2004). In order to develop the time schedule, the Project Management Institute (2004) presents the process of defining the activities. The activity definition is a process for identifying and documenting the planned work. The planned work is then broken down into smaller components, so called schedule activities, making it easier to estimate, schedule, execute, monitor and control the project work (ibid.). The activity definition is based on inputs from the enterprise environment, organisational process assets and the defined project scope. This will generate the output, a list of activities, which includes all planned, scheduled activities that are to be performed. The activities that are not a part of the project scope will not be included in the activity list (ibid.), something that Newell and Grashina (2004) also mentions as an important factor to take into consideration.

During the project, the time schedule may have to be changed. These changes can be managed with a schedule control (Project Management Institute 2004). With the schedule control, the project manager can determine the status of the project and if the project schedule has changed, influence the factors that create changes to the schedule and aid the project team in managing the changes as they occur (ibid.). Being consistent with updating the work performance may help the project team to alert issues that may cause problems in the future.

#### 2.4.3 Cost

A project's cost is the budget, the time phased cost of all the work in the schedule (Newell & Grashina, 2004). On the other hand, the Project Management Institute (2004) emphasises that cost management should also include the consideration of a deliverable's life cycle costing, i.e. the timespan between when acquisition of an asset is first considered until it is taken out of service or to be entirely replaced (Woodward 1997).

To estimate the costs of a project, one needs to look into the business need, current boundaries for the project, requirements and justification carried out by the scope (Project Management Institute 2004). Additionally one has to define the activities required to implement the requested changes with the resources and time aspect included to estimate the costs of those activities. Information of this kind will constitute important input to a projects overall budget, which can be measured and displayed in different contexts through various cost diagrams (ibid.).



### 3. Method

Throughout this chapter, we describe how our work towards answering our question at issue has been performed. The purpose and the question itself indicate that we seek to discover opinions and come to a greater understanding, and hereby urge for a qualitative method (Patel & Davidson, 2011). For comparison, a quantitative method measures the result with numbers and statistics and will not provide the same depth as using a qualitative method (ibid.), and therefore has not been chosen for this report. We have researched several journals to obtain adequate information regarding our theory. Based on the question at issue, the choice of methods for our empirical case study has been semi-structured interviews (Cohen & Crabtree, 2006; Patel & Davidson, 2011) and more casual forms of conversations, such as dialogs (Patel & Davidson, 2011).

#### 3.1 Case study object

The company chosen for the case study is a SME (small and medium size enterprise) located in Gothenburg, Sweden specialised in implementing Microsoft Dynamics NAV and Microsoft Business Intelligence tool: PowerBI. The company was founded in 2002, and throughout this report, the company will be referred to in anonymised form as the IT-company Inc.

#### 3.2 Data gathering

When gathering data for our theory, we searched for information amongst the most cited journals within the IS field, the basket of eight. The literature used for this study was mainly retrieved from MIS Quarterly, Journal of Management Information Systems and Journal of the Association for Information Systems.

Search terms that have been used are closely related to our question at issue, e.g. “project management triangle, ERP, implementation, cost, time and scope management”. Social media such as YouTube and other sources for information such as Computer Sweden has also be given attention to some extent. As long as we considered that the information contributed to a greater understanding of the state of the art we took it into account. It was important during the theoretical data gathering process to ensure that using the information would ensure credibility in our interpretation (ibid.).

##### 3.2.1 Interviews

As a part of the empirical data gathering for this report a number of semi-structured interviews were conducted, mainly for gathering information about the informants' views on ERP-implementation. Semi-structured interviews give the informant freedom to express their answers as they please and the interview is often structured into different themes (ibid.). The questions for the semi-structured interviews were based on the information gathered during the initial dialog, which is the most open form of a qualitative interview where structure and standardisation is absent and no material is prepared beforehand (ibid.). The purpose of qualitative interviews is as Patel and Davidson (2011)

describe a way to identify and capture the informants' opinions regarding a specific issue. Patel and Davidson (2011) describe how the relationship between the informant and the interviewer is affecting the informant's motivation during the interview. Different factors such as power positions, language and gestures known to the informant can also affect the answer and cause a misunderstanding between the informant and the interviewer (ibid.). This was something that we experienced to be extra important when interviewing customers due to the customer-company relation.

### 3.3 Selection of informants

A short presentation of the informants used for this study will be presented below. The informants' age ranged from the mid-twenties to the early forties. We argue that gender will not contribute to or change the result and will therefore not be presented.

**Informant 1:** Business area manager - responsible for the ERP-system Microsoft Dynamics NAV and projects concerning that area. Sometimes takes the role of project manager.

**Informant 2:** Business Intelligence consultant who also has been taking on the role of project manager.

**Informant 3:** Application consultant/System developer, has taken part in many projects and is about to take on the role of project manager for the first time.

**Informant 4:** Customer - IT-manager and business area manager, works with business development.

The first three informants all work at the IT Company Inc. and have all been a part of a project, both as a project consultant and as a project manager to some extent. They also have at least three years of experience with ERP-implementations, which makes them suitable for the role of informants for this report. The difference in experience that the informants have in the role of the project manager gave interesting perspectives on the issues presented during the interview. These perspectives brought up several issues that were used to build up our discussion.

The reason for including a customer as an informant is to investigate both the customer and consultant relationship, but also to raise possible similarities and differences in their perception and experience of ERP-implementations. By interviewing different informants, the researcher can interpret and draw conclusions regarding specific aspects, though it is important that other people also can recognise these implications in the results (Starrin & Svensson, 1994).

### 3.4 Data analysis

As mentioned previously, a qualitative method has been used for gathering and analysing the empirical data. The purpose of using a qualitative method is to reach a deeper understanding about any matter, something that a quantitative method cannot do (Patel & Davidson, 2011). Bell and Nilsson (2000) argue that one can perceive a better understanding of how people experience the world by adopting a qualitative method. Important to understand is that these experiences do not mean anything by themselves, but need to be related to a whole to bring value to the result (Starrin & Svensson, 1994).

By initiating our empirical study through various informal dialogs and analysis of this information, we were able to create suitable interview material. As Cohen and Crabtree (2006) describe, this helps the researcher to obtain a keen understanding of the topic before the semi-structured interviews are to take place.

At the start of every interview, the informant was given a record form (see enclosure 1) explaining the purpose of the interview, who we are and where we are from. Furthermore, how the information will be used and that it will be anonymised, something Patel and Davidson (2011) presents as an important factor when gathering data through interviews. The interviews conducted for this report were recorded and transcribed. Instead of doing all the interviews at once, we did one at a time then transcribed and analysed the data before conducting the next one. Patel and Davidson (2011) also recommend this method since an ongoing analysis may highlight new aspects or aspects that need further investigation. We reviewed our questions after each interview and if we felt the need to supplement the information we did so over an email to the person of interest.

We conducted the interviews in Swedish, although the citations presented in the empirical study were translated into English. We are well aware that the interpretation of the citations might be affected, and therefore we have translated them in a way that minimises this risk.

As Patel and Davidson (2011) describe, the result from a qualitative method is often presented as citations and reflections. During the selection of citations, we stressed the importance of being able to compare the citations to the theory presented in chapter two and relate it to the question of issue.

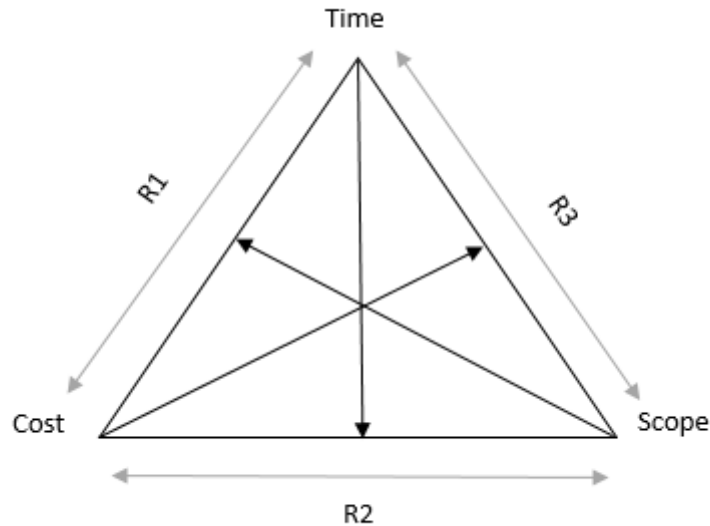


Figure 2 - Model of triangulation (Source: our own)

As Patel and Davidson (2011) describe, triangulation is well established among the phases of data gathering, analysis and/or communication of results. During our analysis we have chosen to apply this approach to distinguish three different relations (see figure 2). Each factor in the framework is dependent on a relation between the other two factors, e.g. time is dependent on the relation between cost and scope, presented as relation two (R2). These relations constitute a foundation and helped us during the stage of categorising the retrieved information from the interviews. The purpose for this was to facilitate the evaluation of the PMT's relevance and to illuminate the information from different views.

During the theory chapter, we enlightened information through factors in the PMT framework. Later on when we were about to create the interview questions, we concluded that these factors affect each other to such a great extent that it is difficult to create interview questions accordingly. Hence, we chose not to proceed with this separation. Instead, we chose to construct more general questions that would capture these aspects. We then returned to these factors and related them to the triangulation approach, creating themes used when presenting our empirical results.

## 4. Empirical results

We will now present the empirical results from our field study. The results will be presented as citations and reflections, which in turn will be categorised into different themes mainly based on the relations presented in the data analysis (see chapter 3.4). These themes and the information presented under each one will build the foundation for the forthcoming analysis and discussion regarding the relevance of the PMT framework. Two citations will be presented down below as a general introduction to the presentation of the results.

One informant mentioned the fact that there are some factors that play an important role when implementing ERP-systems.

*“Umm, the toughest challenge is to live up to the customers’ expectations regarding quality, time, and money.” - Informant 1*

Further on the same informant describes how managing these factors created challenges throughout the entire project.

*“Well, that’s, that’s just it you see. It is always this struggle against these factors, as it is a fight you are facing, these factors. Eh, and you always have to, in some small way, compromise in a way. All of the factors won’t be 100.00; you have to make compromises in some way.” - Informant 1*

How these factors and the compromises affect the work and how the different informants see them will now be presented below.

### 4.1 Scope (R1)

When asking the informants on the relationship between customer and consultant, if they usually agree or disagree on different matters concerning the project, the majority of them gave the same answer. One of the informants explained it like this:

*“No well, you usually agree with each other I’d say, but the thing that you often disagree on is what should be part of the project scope and what should not” - Informant 3*

There can be various reasons for not being able to come to mutual agreement on the scope, one of them being the fact that the parties comes from different industries and might not speak the same language. This challenge, the communication between different parties, was also described by one of the informants who meant that:

*“One can many times think that you agree with each other, but it is about the communication between customer and consultant where it is very, very*

*difficult, without getting bureaucratic and very boring, to get it all down on paper and almost getting a signature on; this do we agree on.” - Informant 2*

It also occurs that the customer is not aware of conceivable scenarios regarding requested functionality, which could also result in communicational issues.

*“What the customer doesn’t understand is that there are many ifs and buts and that there are always scenarios regarding solutions that the customer doesn’t think of.” - Informant 2*

From the customers point of view they experience the same phenomenon; that additions to the scope will be made as time proceeds. However, they apprehend that neither the provider nor the customer can predict those additions.

*“It always emerge things that neither the provider nor we as customers have been able to predict due to various reasons, which destroys the usually already from beginning tight schedule for implementation.” - Informant 4*

Not having a clear picture of what should be a part of the scope from the beginning is not unusual. All of the informants explained how more functionality would be added to the scope throughout the project. One of them described it like following:

*“We now sit over here and it is twice as expensive as we had planned from the beginning, but it also turned out very good and maybe we did even more things with the end product than we had planned from the start” - Informant 1*

Even if the original scope in most cases changes from start to finish, keeping the agreement between customer and consultant is most important.

*“I have been in many projects where the planned time and cost have exceeded by a lot. But as long as you can find reasonable causes for it and the customer is happy at the end and keeps moving forward, and has transferred to a better platform, then you should be satisfied.” - Informant 2*

## 4.2 Time (R2)

When conducting the interviews it was made clear that the customers IT-knowledge is crucial for a project. One of the informants gave the following statement:

*“One customer with little IT-knowledge, which many customers have, is very hard for us to explain to the customer why things don’t happen with magic for example. They think or they don’t care about how it works under the hood, they just think it’s going to work.” - Informant 2*

Understanding the time aspect of a project can be a challenge for some customers. One informant expresses that customers tend to add more functions to the scope without thinking about the consequences.

*"[...] the customer does not understand that they have to pay for it even if they change their mind and comes with new wishes all the time." - Informant 2*

That being said, it also shows that the consultants themselves tend to stretch the time limit by adding more functions to do that little extra for the customer. This without knowing whether they will even notice it.

*"[...]but very often we over-do the functionality eh because we want to make a good job, and we build in that little extra and we fix this extra button and we do this, and that is something the customer might not even notice or appreciate. Then we have spent too much time on the functionality and extended the time and doesn't get, then the functionality doesn't way up for the fact that we delivered too late for example." - Informant 2*

In the end, it does not matter whether it is the consultant or the customer that adds more functionality to the scope. Delivering later than planned eats away on the relationship between the involved parties, which puts more pressure on the agreed quality of the scope.

*"[...] we stretch the time or we cannot make the delivery deadline that we promised. Then it does not matter if the functionality is there or not if it arrives one month late. Or the irritation level will be high during the time, and then you can only hope that the functionality is so good that they can look past the fact that the delivery was late." - Informant 2*

This is also supported by another informant who argues that even if all three aspects; scope, time and budget are important, the time aspect is the most important.

*"[...] but which one is the most important...no I would have to say time since if time does not work, then the costs will increase and eh ah. The functions are often fixable either way. No, time is probably the most important." - Informant 4*

To escape the issue, one informant enlighten that compromises regarding the planned activities within a project are not unusual.

*"Because then it can be like that we say that it will take 40 hours in education we say. Then the customer says nah but maybe we do not need 40 hours and*

*then you steal 10 hours from the 40. Then you are down at 30 hours for education and have taken 10 hours to build more functionality for example.”*

Looking at it from another informant’s point of view, it is not as simple as saying that one factor is more important than the other is.

*“[...] it is case by case so to eh you cannot say which one is more important. Because we get those factors based on that case’s pre-conditions, what is most important during that case in particular.”*

Even though the interviews have shown that the time aspect often changes during a project, this is not something that is known amongst all groups. When asking one informant regarding if one usually expects the project to take more time than initially estimated, the informant answers:

*“Yeah, I don’t think you do that.” - Informant 4*

### 4.3 Cost (R3)

One of the informants emphasises the importance of continuity in communication and describes how lack of feedback risks affecting the delivery negatively. It is also clear that it is easier to rectify various issues if they are reported at once when discovered and not later on during the project.

*“And of course it’s essential to have a lot of communication with the customer. It is not always, it is quite common that criticism and problems come much later in a project, that the customer does not lift the phone and says ‘today I did not get the feeling that this was working’. Instead comes five months later and says ‘five months ago I experienced that this was not working’, and then five months have passed and another hundred things have happened that the customer also experienced.” - Informant 1*

Another issue that was mentioned regarding communication was the one on changes in the cost and time budget. Customers tend to see the price presented in the first budget as a definite price tag on the solution, not taking changes that happens along the way into consideration.

*“[...] we shall be able to send our orders directly from a factory in Holland, that is what they will do. Then they do not care about how many scenarios or how many ‘ifs and buts’ there is, and that can make the project double in size like but they don’t understand that you have to have an on-going dialog and maybe change the cost and time budget.” - Informant 2*



It does not only lie on the consultant to drive the project forward. For a project to go smoothly and follow budget the customer also has to put in an effort and do the work they have agreed on doing, something that is often overlooked.

*“Mm eh there we have a definitive majority of the cases where the customer underestimates the time that they themselves has to put in. It’s definitively a majority of the cases where that is underestimated.” - Informant 1*

On the other hand, one has to keep in mind that the customer also may need support in this process since one informant expresses how these projects affect the buying organisation.

*“Eh the most negative aspect is without doubt that it affects the entire company for a long period of time, and also that every person, and then I mean every person that has something to do with the company will be under a lot of pressure during that period.” - Informant 4*

During the interviews, the issue that was often brought up was how the customers and their lack of IT-knowledge affects the project, especially the time aspect. When looking at the relationship from another point of view it emerged that there is an awareness that it is important to put in a lot of effort, not only into the project, but also to understand the different parties involved during an ERP-implementation.

*“Eeh, I would almost like to claim that it’s about interest, yes maybe it’s a bit sloppy, but interest for the other party and to concern about their situation and conditions.” - Informant 4*

*“I think that it is that to acquaint oneself with the others situation and see it from both directions. If you don’t do that it creates problems, that’s how it is.” - Informant 4*

The customer participation is important throughout the entire project. One example of a customer underestimating the effort they have to put in, and the result it might generate was presented by one of the informants like this:

*“Yeah that gets a typical result that a system goes live that is not properly tested by the customer, and then after going live different problems arise.” - Informant 1*

Exceeding the time plan will raise questions concerning the budget; hence, it has shown that in the end it all comes down to a question of what does it cost and who will pay?

*“[...] that’s the problem as well; should we stop when the time runs out or should we continue and do all parts even if we don’t have the time? Who should pay for this? Should the customer pay for this, or should we treat them with this?” - Informant 3*

## 5. Discussion

The purpose of this report was to investigate the relevance of the PMT framework when implementing ERP-systems and the answer to this will be presented in chapter 7. Throughout this chapter, we will analyse the results from the empirical study (chapter 4) in contrast to the theory presented in chapter 2 and discuss our findings in connection to the question at issue and our problem discussion.

It has shown that there are evident linkages between the PMT framework and ERP-implementations throughout the comparison between theory and empirical results. We see both similarities and differences, which will be described below.

Theory about the PMT framework describes the three factors and the importance of having a sorted picture amongst the parties on how to prioritise these factors (Tonnquist, 2007). Tonnquist (2007) further argues that one factor always has higher priority than the other two, and explains the importance of knowing where to compromise if changes occur to the original plan. This fact, the struggle of prioritising and compromising with these factors, was also proven accurate during the empirical study where the informants described that all of the factors cannot be 100%, and that you always have to make compromises. Being able to make compromises does not only concern how to prioritise the factors, but also how to adapt the business to the system. As Davenport (1998) explained, when it comes to ERP-systems the organisation has to make compromises between the way they want to work and the way the system allows them to work.

We experienced that during ERP-projects it is important to make clear that implementing an ERP-system regards change, rather than just bringing in a new system into the organization. We consider that clarifying this and making the customer understand is of vital importance. Akkermans and van Helden (2002) presents management of expectations as a CSF and describes how misalignment of these expectations is common. During our empirical study, both of the informants who had the role as a project manager brought up the issue with setting realistic expectations for the customer. They also said that not living up to the customers' expectations, misplaced or not, often increased the risk of failure. We consider that the PMT framework could aid the process of setting these expectations and to manage how changes during the project affect them.

When looking into the theory Jansson and Ljung (2004) put it like it is the customer who decides which of the factors in the PMT framework that is the most important and how compromises can be made. This has shown to be the case throughout the empirical study as well where two of the informants stress the importance of the time aspect and argue that time is superior in the comparison between the three factors of the PMT framework. However, another informant explains how the priorities may vary from one project to the other and that the customer expectations and demands shape the consultants focus.

Even though time has shown to be an important factor, it occurs that the developer tend to create extra or over-do the functionality at the expense of time because they want to do a good job. Results show that they do this at the same time as being aware of that the effort might not even be noticed or appreciated by the customer. This fact was also pointed out by Newell and Grashina (2004) who means that many managers strive to achieve higher performance, often affecting time and cost negatively and in the end forgetting about the end goal of value it will provide for the customer.

Cost and time are presented in the theory as factors that create tension between the customer and the consultant (Lee et al, 2012). They mean that customers push for a cheap and fast project, whereas developers want the time and money required to deliver a perfect product. This in turn creates problems when it comes to setting goals for the time and budget. One informant means that the problem lies with the majority of the customers underestimating the time themselves need to put into the project, whereas another informant means that the problem is that the project affects their business to such a great extent. The same informant further describes the tension as a result of the parties lacking interest for the other party, their situation and conditions.

ERP-implementations affect the entire business, which is something that is pointed out both in the theory (Liang et al., 2007) and by the informants. Davenport (1998) pushes on the importance not to rush into an implementation without fully understanding how it will impact on the business. This fact is described by one of the informants as, without doubt, the most negative aspect, and further explains that every person that has something to do with the company will be affected and under a lot of pressure during the implementation.

When looking into what the theory says about project planning, Newell and Grashina (2004) describes that during the early stages one should determine the scope and what should be included. The empirical results on the other hand indicate that functionality tend to emerge over time during ERP-implementations. It is evident that both the customer and the consultant are having a difficult time developing a keen understanding of what should be included in the scope in the early stages of a project. It is necessary to separate between what should be paid attention to and what should not throughout the project.

According to the academics it is important to consider the fact that activities that are not included in the scope will not be implemented (Newell & Grashina, 2004; Project Management Institute, 2004). After completing the empirical study, it was made clear that the informants did not share this idea. They argue that the content of the scope most likely will change over time since things always emerge that cannot be foreseen by either of the involved parties. The issue of not being able to determine the content of the scope at an early stage was also pointed out by Akkermans and van Helden (2002) when explaining the difficulties with the fourth critical success factor. Based on our findings in the

empirical study, we agree with Akkermans and van Helden on this matter. We think that it is of great importance to come to agreed terms regarding the definition of done, something that we consider can be accomplished without having the full content of the scope sorted. We argue that this is something that should be paid attention to, so that involved parties can be satisfied with the results. We think having a mutual understanding of this can help the customer to feel well treated and the provider to move on to maintenance of the product.

As the Project Management Institute (2004) describes, creating a scope managing plan can be good way of documenting the scope and how the different parts should be managed. On the other hand, during the empirical study, one of the informants expresses that it can be quite difficult to document all the detailed information without appearing bureaucratic to the customer.

One of the presented CSFs described how project management affects the project's success (Akkermans & van Helden, 2002). They stress the importance of being able to evolve and improvise over time. This is something that the PMT-framework can aid, since it always strives to be balanced (Tonquist, 2007) and dynamically updates as changes occur.

It was made clear by the informants working at the IT Company Inc. that some of the customers have little IT-knowledge, leading to them relying a lot on the IT-company. This is something Akkermans and van Helden (2002) brings up as an issue when describing the ninth CSFs, vendor support. Fully relying on the IT-company will not benefit the project (ibid.). In relation to this, the informants also described that the customers often underestimate the work they have to do in order to successfully complete the project, which we think could be an effect of them not having enough knowledge in the area. However, they still need to do their part, and using the PMT framework to display the effects their lack of participation has to the project.

Another important factor brought up by the informants is that the customers often tend to have troubles seeing different scenarios when it comes to the system implementation. They also express that this can result in frustration later on during the project when new aspects and ideas emerge that we think can cause pressure on time and budget among others. Relating these issues to what Akkermans and van Helden (2002) express regarding interdepartmental collaboration and communication as two CSFs, we argue that acquisition of an ERP-solution puts evident stress on the customer.

When looking into the theory we saw that it is common to suggest that changes should be made to the PMT framework to make it more suitable (Cobb, 2011; Lester, 2007; Briner, Hastings & Geddes, 1996). We consider that the three inherent factors can but maybe should not be mixed with external factors that may seem important during development of systems in a particular context. Instead, we can see that the framework emphasizes

factors that are important to discuss during a project rather than aspects that must be taken into consideration when constructing or developing parts of a system.

## 6. Conclusion

At the beginning of this report, we presented the question at issue: *How relevant is the project management triangle framework during implementation of ERP-systems?* Based on the results gathered during the empirical study, the analysis and the discussion, we will now present our conclusion. Further on we will discuss the relevance of the study, and then end this report with a presentation of suggested future research topics.

The framework is relevant concerning how the factors affect each other. However, there is a lot of information to be found on how these factors should be managed. The information regarding this does not necessarily marry up with and is not always applicable on ERP-implementations since they have shown to deviate on different aspects. For example, the scope has shown to be incredibly difficult to define at the beginning of a project. We argue that the reason for this could be that ERP-implementations are dynamic in their nature. Interdependencies tend to vary over time.

We argue that the PMT framework is relevant in the sense that the factors, which it sheds light upon, are evident throughout ERP-implementations and potentially supports them in being communicated more often. Striving after communicating these factors, not only by seeing them from your own point of view, but also trying to develop a mutual understanding with involved parties is essential. An ERP-system is complex in its nature and we argue that one must keep this in mind when considering the factors of the PMT framework. If doing so, they could possibly facilitate the communication during the turmoil and lead to better project results.

### 6.1 The study's relevance and transferability

The study was conducted at the IT Company Inc. We argue that even though the focus was limited to one type of IT-company, the results are applicable on companies in general who implement ERP-systems regardless of size in the company itself or the projects they conduct.

Failed IT-implementations, ERP-systems and the PMT framework in themselves are all areas where a lot of research has been made. However, research concerning the PMT in relation to ERP-systems and successful implementations is absent and therefore proves the relevance of the study, also presented in the problem discussion (chapter 1.2).

### 6.2 Further research

This study was limited to one IT company and focused solely on the implementation of ERP-systems. For further research, it would be of interest to involve more IT companies that differ in size and with focus on customers from different business areas. One could also look more into what affects the result of an implementation and either study the communication between the customer and the consultant or the issue of implementing organisational change in contrast to delivering a technical product.

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## Enclosure 1 – Record form

**Hej!**

Våra namn är Jonathan Smith och Frida Magnusson. Vi läser sista terminen på Systemvetenskapliga programmet vid Göteborgs Universitet och genomför nu denna studie för vår kandidatuppsats/examensarbete.

Vår studie riktar sig till ERP-implementationer och grundar sig i det höga procentantalet misslyckade implementationer som sker världen över. Vi vill undersöka ett antal faktorer och se till chanser hur man kan öka antalet lyckade implementationer. För att göra detta är alla intressenters åsikter som är involverade i dessa sammanhang viktiga. Således avser vi att intervjua dig.

Denna intervju kommer att spelas in och därefter transkriberas för att senare anonymiseras. Informationen från intervjun kan komma att presenteras i resultatet för arbetet.

För vidare frågor är ni välkomna att kontakta Jonathan och Frida eller handledaren för arbetet Maria Bergenstjerna.

Med vänliga hälsningar,  
Frida och Jonathan

**Jonathan Smith**

Student

[mr.smith.jonathan@gmail.com](mailto:mr.smith.jonathan@gmail.com)

**Frida Magnusson**

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**Maria Bergenstjerna**

Handledare

Universitetsadjunkt

[maria.bergenstjerna@ait.gu.se](mailto:maria.bergenstjerna@ait.gu.se)

## Enclosure 2 – interview material: IT Company Inc.

Namn:	
Titel:	
Datum för intervju:	
Plats:	
Genomförd av:	
Andra noteringar:	

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### **Bakgrundsfrågor:**

Be informanten att ge en kort presentation av sig själv och dennes uppgifter inom företaget.

- A) Ålder
- B) Utbildning
- C) Erfarenhet av att arbeta med ERP-system/antal år

Hur ser en vanlig arbetsdag ut för dig?

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### **Generella/inledande frågor:**

Vilka är dina viktigaste negativa respektive positiva upplevelser av ERP-implementation?

Vad är din samlade bild av relationen mellan konsult och kund.

- A) Är konsulten och kunden ofta oense?
- B) Är konsult och kund oftast överens?

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### **Frågor kring ramverket:**

Hur arbetar du med att bilda dig en helhetsförståelse för hur hela projektet fungerar?

Brukar det vara svårt att utveckla en gemensam förståelse med kund kring funktionalitet i ett ERP-system?

Finns det någon problematik för tidsplaneringen som är extra påtaglig, märkbar?

Hur påverkar relationen mellan kund och konsult det slutgiltiga utfallet?

Hur vet du att ett projekt är framgångsrikt och genererar det värde kunden önskar?  
Anser du att ett projekt är lyckat om båda parter är nöjda trots att det har dragit över i tid och kostnad?

Vad är ett misslyckat projekt för dig?

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**Avslutande frågor:**

Utav faktorerna tid, kostnad och funktionalitet; vilken anser du är viktigast vid ERP-implementering?

Har du kommit i kontakt med ramverket; the project management triangle?

A) om JA: i vilket sammanhang? Åsikter om detta ramverk?

Har du något ytterligare du vill tillägga med åtanke på det vi tagit upp under intervjun?

## Enclosure 3 – Interview material: Customer

Namn:	
Titel:	
Datum för intervju:	
Plats:	
Genomförd av:	
Andra noteringar:	

### **Bakgrundsfrågor:**

Beskriv lite om dig själv och ditt arbete

- A) Ålder
- B) Utbildning
- C) Erfarenhet av att arbeta med ERP-system/antal år

### **Generella ERP-relaterade frågor:**

Vilka dina viktigaste positiva respektive negativa upplevelser av ERP-implementation?

Vad anser du är viktigast för att en ERP-implementation ska anses som lyckad?

Vad är det samlade värdet i ett ERP-system för dig?

Utav faktorerna tid, kostnad och funktionalitet; vilken anser ni är viktigast vid ERP-implementation?

Vid ERP-implementation hos er, upplever ni att tid, budget och/eller funktionalitet förändras?

Vad är din samlade bild av relationen mellan konsult och kund.

- A) Är konsulten och kunden ofta oense?
- B) Är konsult och kund oftast överens?

Har du kommit i kontakt med ramverket; the project management triangle?

- A) Om JA: i vilket sammanhang? Åsikter om detta ramverk?

### **Företagsriktade ERP-frågor:**

Vi ska nu ställa några frågor kring den implementation som genomfördes hos er. Vi ställer oss helt neutrala till frågorna som enbart fungerar i syfte för jämförelser.

1. Hur anser ni att genomförandet gick till i relation till hur ni hade tänkt att det skulle gå?
2. Till vilken grad levde resultatet av projektet upp till de förväntningar ni hade?
3. På det stora hela, hur tyckte ni att projektet blev?

Har du något ytterligare du vill tillägga med åtanke på det vi tagit upp under intervjun?