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Introduction to Value Realization in ERP projects

In this chapter, the reader will be introduced to the concepts of value realization; change management & enterprise resource management system & critical success factors and benefit management, their background and the associated problem discussion. After the problem discussion we will present the purpose of this thesis and associated research questions. At the end of this chapter we will also present our delimitation, a set of important concepts.

1.1 Background

In modern society organizations are fighting each other through various means and tools in an ever-changing market at an increasing pace. One such tool is the Enterprise Resource Planning (ERP) System which aims to collect the necessary applications an organization need into one system. Although practical, it offers numerous challenges. In the 1970s the ERP was regarded as a *Material Requirement System* (Motiwalla & Thompson, 2009) and described as big, clumsy and expensive (Jacobs & Weston Jr, 2007). Over the years the possibilities through increased integration became apparent and in the 1980s the system was seen as a planning and guiding tool to make production more efficient (Motiwalla & Thompson, 2009). In modern time the ERP system is regarded as *ERP II* and involves “...*integration of inter-organizational systems to provide back-end support for such electronic business functions as business-to-business (B2B) and Electronic Data Interchange (EDI)*” - (Motiwalla & Thompson, 2009).

Although the ERP solution has become more mature over the years, researchers suggest that benefits obtained from them have become increasingly hard to identify, hard to measure and hard to realize. According to Ward and Peppard (2002) there has been much written regarding the area of benefit management and how IS/IT should be evaluated, but no real consensus on which method is the most appropriate. Furthermore, Ward and Peppard (2002) also suggest that the only consensus present was the consensus that methods used presently for evaluating IS/IT are inappropriate.

Additionally, Ward and Peppard (2002) presents findings from Cooke and Parrish and their study from 1992, which suggests that 70% of organizations in their study had no formal justification or post-implementation review process for IS/IT investments.

Another study from Farbey, Land and Targett in 1992 (Ward & Peppard, 2002) suggests that only 50% of IS/IT projects were subject to formal pre-investment appraisal; in less than half the cases was a recognized financial analysis technique used, and in barely 30% was the outcome of the investment evaluated. It was further suggested by Ballantine, Galliers & Stray in 1994 that traditional financial analysis techniques are still commonly in use but is getting increasingly difficult to use as benefits are getting harder to quantify (Ward & Peppard, 2002).

In the context of ERP implementation and benefit management, the thesis will also investigate the phenomenon of change management and its correlation to ERP projects. As the field of ERP and benefit management has matured over the years, so has change management.

From the rise of Total Quality Management (TQM) after the Second World War (Evans & Dean, 2000) the goal through a number of years was to reduce waste, which incidentally supported the idea of MRP systems. With the use of TQM, other waste oriented practices were created such as Six Sigma, Performance Measurement Management and Bench Marking (Brue, 2002).

TQM and similar approaches is usually regarded as change being done incremental. Tushman and Romanelli described this process as an s-shaped curve in their work from 1998 (Hayes, 2007). The s-shaped change curve suggests a slow start, increased speed in the middle and slower speed at the end, before the process iterates once again (Hayes, 2007). This can be linked with TQM where waste is identified, removed and improved process is anchored in the organization. For the change to be optimized, an organization can use Key Performance Indicators (KPI) (Ward & Peppard, 2002).

The KPIs suggested should be assigned against objectives, which lets them monitor and measure the success of that particular objective (Ward & Peppard, 2002). In terms of ERP systems implementation it would be interesting to see if e.g. a certain process has been able to reduce the identified waste after the ERP system has been implemented.

Another aspect of ERP implementation is the nature of the project. While incremental change focuses on improving the current situation with the resources currently existing, an ERP implementation often suggests deeper change to the organization due to the systems complexity (Eisenbach et.al, 1999).

The nature of the ERP project can be compared to what Hayes (2007) suggests as *the punctuated equilibrium*: “Relatively long periods of stability (equilibrium), punctuated by compact periods of qualitative, metamorphic change (revolution)” – (Hayes, 2007) In comparison to incremental change, the transformational change advocates more focus on structure for the change i.e. change management. In change management it is important to understand the need for change and what stakeholders exist in the problem domain (Weick & Quinn 1999)

It is from the assessment between identified theories a phenomenon and a problem has been identified. *What components/criteria are important to realize value in an ERP project?* Throughout this thesis the authors practice the use of previous research and theories with the aim to understand the connection between the three broad areas; Enterprise Resource System, Change Management and Benefit Management. Through the use of supporting theories we have argued what is necessary to understand this field of study from a theoretical point of view. It is then further elaborated on how knowledge captured from the ERP consulting industry can further our understanding of this field and how we as master students of informatics comprehend this complex area. An artifact is presented after our analysis as a visual contribution to this problem domain.

1.2 Problem

The problem that intrigued the authors of this thesis, after the initial literature review was completed, was the inadequacy of existing connections between the three identified topics relevant to our study; *Enterprise Resource Planning Systems, Change Management and Benefits Management*. Most often one or two concept areas were discussed and suggestions for models, methods and tools presented. However, as master students in the field of informatics, we felt a need to, as one might say, *close the loop*. What we encountered in theories and previous research suggested that it was common to address one main topic e.g. change management and/or leadership such as Kotter's theories on leading change (Kotter, 1996) and add the need for e.g. goal definition, in Kotter's case, establishing a vision. Ward and Peppard (2002), as another example, discuss the need for benefit management and strategic planning with less emphasis on change leadership and critical success factors for implementing a system solution (although they did mention it). The problem as we saw it then was to investigate the associating relationship(s) between these three informatics topics in terms of ERP projects from a provider's point of view;

1. Enterprise Resource Management System & Critical Success factors
2. Change Management
3. Benefit Management

One topic dealing with the system and technical criteria, second topic dealing with how to analyze the organization and work with the soft system within, and finally a third topic dealing with how value and benefits can be obtained through clear and structured project steps.

Another aspect of the problem that we encountered once these topics had been identified was the challenge of presenting a solution to this problem that could be applied for practical support. By combining the view of behavioral science and design science we created an understanding of the problem domain and created an artifact.

1.2.1 Problem Discussion

During the fall of 2011 both authors of this thesis got involved with an IT consultancy organization during an internship. During that internship, discussions regarding benefit management and value realization was initiated with different employees at their ERP department. From these discussions the authors felt that there was not only a theoretical gap, but also a business gap as well. This theoretical and business gap, as both authors saw it, demanded a combination of theoretical knowledge and practical (real world) knowledge to be bridged. The solution to the problem would have to be theoretical, building on previous research, while at the same time it had to adhere to requirements set by the business domain; practical, ease of use and ease of understanding.

1.3 Purpose

After the problem had been specified, we could identify the purpose of this study. First by investigating and understanding the three topics mentioned chapter 1.2 *Problem; Enterprise Resource Planning systems & Critical Success Factors, Change Management and Benefit Management*. Secondly, to study how they could be related to each other in the context of an ERP project to realize value for an organization. Last but not least, to investigate how potential relationships between the three theoretical topics; *Enterprise Resource Planning systems & Critical Success Factors, Change Management and Benefit Management*, could be applied along with the primary data collected in the creation of an artifact. The artifact will allow the authors to present how these topics can be combined into more abstract model. After the initial literature review a simplistic conceptual model was created to show the initial relationships discovered. The in model can be viewed below in *Figure 1- Conceptual model of research purpose*.

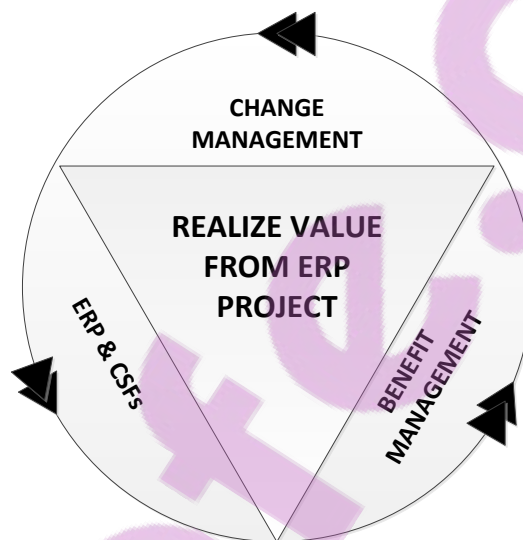


Figure 1 - Conceptual model of research purpose

As discussed in the chapter 1.2.1 *Problem Discussion* there are two sides of the solution that we are targeting. Firstly it is our goal to further existing research by, as we call it, *closing the loop*. Although we acknowledge that we alone cannot complete this, we see our research as one step of a longer journey in the field of informatics research regarding the challenge of realizing value from ERP projects. Our contribution will be fulfilled with the creation of an artifact. The aim with our artifact is to elaborate on existing theories as well as providing a supporting model that can be used by business practitioners. The artifact could be seen as a next step in the process of increasing value from ERP projects.

It is likewise within our research purpose to investigate the maturity level of value realization and/or the possibility of offering value realization as a service during ERP projects from a provider's point of view. The data regarding maturity was obtained parallel to our primary research purpose, value realization. We will not apply any model for measuring the maturity level, but the topic is discussed in chapter 9 *Final Reflection & Future Research*. To succeed with this the authors adopted a combined view of behavioral science and design science. This combination has amplified the opportunity of reaching the purpose specified, and to answer our research questions. By utilizing behavioral science we have understood the problem and through design science we focused on solving it.

1.4 Important Concepts

In this section we will present important concepts that will both guide the reader through the thesis and add to our delimitation.

1.4.1 Enterprise Resource Planning System

To understand the concept of Enterprise Resource Planning (ERP) systems, which is a key concept in our study, we define them as systems where the goal is to integrate data across and be comprehensive in supporting all major functions in an organization (Motiwalla & Thompson, 2009). Andersson et al. (2011) complements to the explanation of ERP systems by defining them as software and databases with the task of automating and integrating information processing in real time over a large amount of business processes and functions. The goal of an ERP system is to make the information flow dynamic and immediate, which means that the usefulness and value of the information is increased. In addition to this, the ERP system also acts as a central repository eliminating data redundancy and adding flexibility (Motiwalla & Thompson, 2009). Dezdar and Sulaiman (2009) believe that an ERP system has the potential of delivering benefits such as improved process flow, better data analysis, higher quality data for making decisions, reduced inventories, and better customer service. According to Motiwalla and Thompson (2009) some of the reasons for why organizations choose to implement ERP systems are the need to increase supply chain efficiency, increase customer access to products and services, reduce operating costs, respond more rapidly to a changing marketplace, and extract business intelligence from data. Dezdar and Sulaiman (2009) furthers this by pointing out that ERP systems facilitate the task of managing the efficient and effective use of resources, e.g. materials, human resources, finance etc., by integrating the information-processes in a company. Dezdar and Sulaiman (2009) continue by stressing that though there are many benefits with an ERP system, the adoption has not been without problem. The implementation and development of ERP systems will be discussed later in the theoretical framework.

1.4.2 ERP & Change Management

One of the important concept domains in this thesis is the domain of organizational change management. From our understanding we can divide change into two different sections. One being incremental change which is often compared to fine-tuning and the second one being transformational change which follows the punctuated equilibrium pattern as suggested by Tuschman & Romanelli in their publication from 1985 (Eisenbach et.al, 1999). In comparison incremental change focus on waste reduction through approaches such as TQM or Kaizen (Evans & Dean, 2000) or Six Sigma (Bruce, 2002) while transformational will affect the deeper structure of the organization, removing or adding elements rather than using what is pre-existing (Eisenbach et.al 1999). As the two approaches towards change are rather different, there is a need for different management/leadership approaches to them. It is in our opinion that an ERP project is initially regarded as transformational change due to the factors that it is; *initially a rather short project, often affects the deeper structure of the organization, involves more than one department and is usually a top-down championed project*. Post-implementation this distinction may differ, however, in this thesis we have delimit ourselves to the pre-implementation stage. Therefore, concepts such as change management, change leadership and business analysis will be described in the theoretical framework.

I.4.3 ERP & Benefit Management

With the purpose to research value realization in ERP projects, we decided to investigate the domain of benefit management and associated methods. While benefit management involve different approaches and activities, Ward & Peppard (2006) suggests that the evaluation of IS/IT projects is critical to success. Ward & Peppard (2006) suggests a set of benefit management guidelines to identify, plan and implement benefits in a strategically planned process. However, there are other hands-on approaches such as Balance Scorecard and KPI measurement. Although Balance scorecard is used for measuring performance in a strategic sense (Kaplan & Norton, 1996) and KPIs are used to monitor key operational activities (Parmenter, 2007) it has come to our attention during our empirical study that they are rarely applied during ERP projects. Therefore we will focus on explaining the concept and process of generic benefit management rather than focusing on specific tools that can be applied in the process.

I.5 Research Questions

In regards to our problem and purpose we have developed the following research questions. The delimitation of our research is described in the chapter *1.5.1 Delimitations*

- RQ1 - What components/criteria are important to realize value in ERP projects?
 - What kind of processes/activities are of key importance for completing an ERP project, according to providers of ERP solutions?
 - What kind of benefit(s)/risk(s) could be associated with an ERP project?

The first research questions connects with our purpose to contribute to existing benefit management theories, organizational change theories and ERP implementation methods by combining secondary and primary data in creating an artifact. Regarding the artifact, the main challenge is the internal and external validity of our findings. The validity will be reviewed in our method *chapter 2.5.3 Threats to Validity* and *chapter 7.2 Critical Assessment of the Toolbox Artifact*

- RQ2 - How can value realization management be offered as a concept/service from a solutions provider's point of view?
 - What kind of opportunities/challenges exists presently with guaranteeing value realization as a provider of an ERP solution?
 - What is necessary for such a concept/service, in the context of ERP solutions, to become plausible for the provider?

The second research question allows us to understand the problematic situation within the industry we are investigating. By understanding the problem(s) and the demand(s) of the practitioner (consultant) we can add specific characteristics to our artifact. The scientific contribution of this research question is the addition of industry specific knowledge and preferences. This enhances our research, and future informatics research, as it reduces the level of abstraction as it allowed for the application of primary data, but it also allowed us to look at the problem from a higher abstract level.



1.5.1 Delimitations

To delimit our research we have decided to focus on the initial parts of ERP projects that, to our best knowledge, are concerned with business analysis, goal definitions, planning and identification of the current situation, AS-IS, and the future situation, TO-BE. We have further delimit this study to the perspective of the provider, which means that all interviews and material gathered was for the sake of understanding the providers side of the project and challenges related to it.

Furthermore, we delimited ourselves in interviewing people fulfilling a set of requirements which can be found in *chapter 2.1 Research Approach*. These requirements allowed us to target consultants working with the ERP system Microsoft Dynamic AX or had knowledge regarding it.

Another delimitation was to focus on a specific industry; ERP systems providers delivering Microsoft Dynamic AX, and to organizations with at least an employee count of 1000 employees. The delimitation regarding Microsoft Dynamic AX does not mean that we will analyze how the specific system is implemented, but it delimits our research to a specific kind of ERP solutions in terms of size, costs, approaches, goals and/or problems. A comparison between a smaller ERP system or a larger ERP system and Microsoft Dynamic AX would have implications on our result and data gathered, making the system specific delimitation vital for performing a coherent research study. A overview description of each company selected can be found in *chapter 4 – Empirical Study*.

2 Method

In this chapter, the reader will be provided with the methodological choices the authors made, their impact on the research, and how they were applied. First, a short summary of the method is provided for quick overview, and then the research approach will be discussed, ending with our method for analysis. After the analysis, the credibility, reliability and validity, along with perceived threats, will be discussed.

Table 1 - Summary of Research Approach

Research Philosophy	Behavioral science combined with Design science
Research Approach	Inductive
Research stance	Interpretivism/Anti-positivism
Data gathering method	Qualitative data through secondary literature and semi-structured interviews
Data Analysis method	Narrative summary analysis combined with conceptual modeling

2.1 Research Approach

Informatics is a field of study incorporating the study of information, information processing and information systems together with behavioral science theories such as economics, computer science, psychology and or natural science, to name but a few. It has therefore been our understanding that a philosophical approach combining more than one view of the problem domain would support our research. Therefore we decided to adopt the teachings of Alan R. Hevner and his views on informatics research. According to Hevner et al. (2004), it is beneficial to combine behavioral science and design science. Behavioral science would then support our need for understanding the problem phenomenon, supporting us with relevant theories, and design science would support our purpose of creating an artifact that aims to solve the problem identified. A description of how we applied behavioral science and design science can be found in chapter 2.4 – *Application of Behavioral Science and Design Science*

In research it is further important to select a distinct approach. In this research we adopted an *inductive* research approach where we utilized our time spent at the university and or internship from the fall of 2011. The inductive approach starts with the researcher(s) going into the world to collect material through research experiments to formulate a theory (Saunders et al, 2007). This has let us observe the problem gap through literature review and observations in the industry of ERP consultants.

Additionally we decided to take an interpretivistic, also known as anti-positivism, stance towards knowledge that had to be gathered. For us this meant that we would focus on qualitative data, rather than quantitative, as we needed a deeper understanding of social constructs and actors involved (Saunders et al. 2007).

As the first step of our research was to study existing theories and publications regarding the problem domain, we decided to use both tertiary sources and secondary sources. An example of what kind of sources we used are:

Tertiary Sources

- Google Scholar
- E-Julia (Jönköping University School Library)
- Emerald Insight
- Harvard Business Review

Secondary Sources

- Journal(s)
- Book(s)
- Database(s)
- Scientific Publication(s)

In addition to the secondary data that we gathered, we also gathered primary data. The primary data was gathered through the process of semi-structured interviews. Semi-structured interviews differ from both structured and unstructured interviews in the sense that there is a frame, e.g. the topic and issues are pre-defined to keep the interview focused, however it is flexible enough to allow for a discussion and follow-up questions to be added (Saunders et al 2007). The first step in our primary data gathering was to decide upon the population of our problem domain. As the population turned out to be quite large, Consultants working with an ERP solution, we decided to reduce the sample size. We therefore applied two sampling techniques called *convenience* sampling and *judgmental* sampling. Ghauri and Grønhaug (2010) defined convenience sampling and judgmental sampling as:

Convenience – “often termed an accidental sample, units that we find convenient for some reason are selected. We could, for instance, interview the business executives we happen to know personally.”

Judgmental – “judgment is used to try to get a sample that is representative of the population. We simply try to select units we think are representative of the population.”

The motivation for this sample approach was due to contact that we previously had with people working in the targeted industry. This let us adopt the role of what Depoy and Gitlin (2005) refer to as *insiders*. Since convenience and judgmental sampling means that we as researchers were responsible for choosing who we interviewed, we developed a set of requirements:

1. The interviewee should presently hold or be involved in one or more roles or processes involving ERP systems:
 - **Senior Project leader/manager** of an ERP solution (Preferably Microsoft AX)
 - **Junior Project leader/manager** of an ERP solution (Preferably Microsoft AX)
 - **Management Consultant** of an ERP solution (Preferably Microsoft AX)
 - **System Consultant** involved with an ERP solution (Preferably Microsoft AX)
2. The interviewee should preferably have some degree of previous experience within areas such as:
 - **Been involved with or is currently involved with** delivering an ERP solution (Preferably Microsoft AX and a second solution to create depth)
 - **Experienced the evolution of ERP**, i.e. seen trends in the market place (Mostly senior managers)
 - **Have an understanding for our field of research**, i.e. understanding terminology and concepts used as well as more modern studies.

With the requirements specified, we sat down and started to map what companies are active within the field we are studying i.e. what companies are offering ERP solutions and consultants to deliver it. The next step was to identify connections to targeted companies, which made it easier to get a hold of valuable employees and get them onboard our thesis project. The contacting process was smoother in some instances, as with the company where we had conducted our internship, while others required more steps.

The common approach on the other companies was to identify a key person, either through contact network or via information on the company website. When that person had been identified we contacted him-/herself and presented ourselves and the purpose of the call. If that person deemed him/her of value to the research that person either accepted and a meeting or phone interview, was scheduled or we got a suggestion on a different person that might be more suited. In the case where the person declined and gave us a different name the selection was biased by employees of that company, however the person in the end always verified that he/she was eligible to answer our questions as we shared a short description of our research with them before any meeting was scheduled, the description can be found in *appendix 1 –Description of Research in Swe & Eng*

The description was sent in Swedish and all contact with companies and their employees has been conducted in Swedish. The media which we have used to contact the potential interviewees has been through phone and e-mail.

When an interview had been agreed upon we also sent our interview guide to the interviewee beforehand so that he/she could prepare him-/herself. The interviewee was also informed of the fact that the questions were open ended and that a discussion with the researchers would follow to ensure that qualitative information was obtained. The interviewee was also informed about the fact that the conversation would be recorded and that names of people and companies would be censored. The Swedish version can be found in *Appendix 2 – Interview Guide in Swedish* and the English version in *Appendix 3 – Interview Guide in English*.

2.2 Method for Analysis & Handling of Data

This chapter provides an overview regarding the theoretical choices made by the authors as well as an in-depth description of the sub-stages undertaken in order to collect, analyze and apply the presented data in the thesis. Below we present a model of overall steps taken and later in the chapter we present stages within each step.

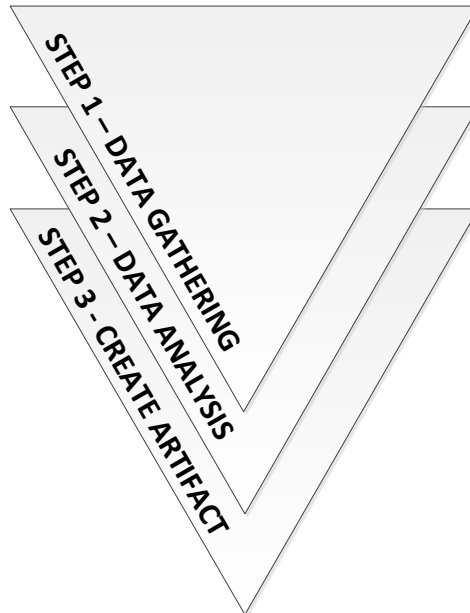


Figure 2 - Overview model of Method for Analysis & Handling of Data

Step 1 – Data Gathering: As previously mentioned in our research approach, we used semi-structured interviews to obtain the primary data for our research process. The semi-structured interviews allowed for a deeper understanding of the research problem as well as the possibility to ask follow-up questions to clarify or add information to the findings. The data gathering step was divided into five different stages and they will be described further in *chapter 2.2.1 Primary Data Gathering/Handling Process*

Step 2 – Data Analysis: When approaching qualitative analysis, different approaches can be selected. In this thesis we selected *Narrative analysis* as described by Saunders et al. (2007). *Narrative Analysis* focus on the flow of the text, much like telling a story, and is appropriate in terms of deeper understanding of a domain, discussing; *what is the story about, what happened to whom, whereabouts, and why?, what consequences arose from this? What is the significance of these events? What was the final outcome?* (Saunders et al, 2007). The *Narrative Analysis* supported our work in rendering what we discovered in secondary sources and during primary data gathering. The stages performed in the data analysis step is described further in *chapter 2.2.2 Analysis Process*.

Step 3 – Create Artifact: The final step of the analysis was to create a design science artifact. To do this we followed seven iterative steps to ensure that we dealt with the identified validity threats identified in *chapter 2.5.3 Threats to Validity and chapter 2.5.4 Threats to Design Science Validity*. A description of the creation process can be found in *chapter 2.2.3 Artifact Creation Process*.

2.2.1 Primary Data Gathering/Handling Process

The data gathering and handling was a five stage process as can be seen in *Figure 3- Primary Data Process* below. A deeper description follows after the figure.

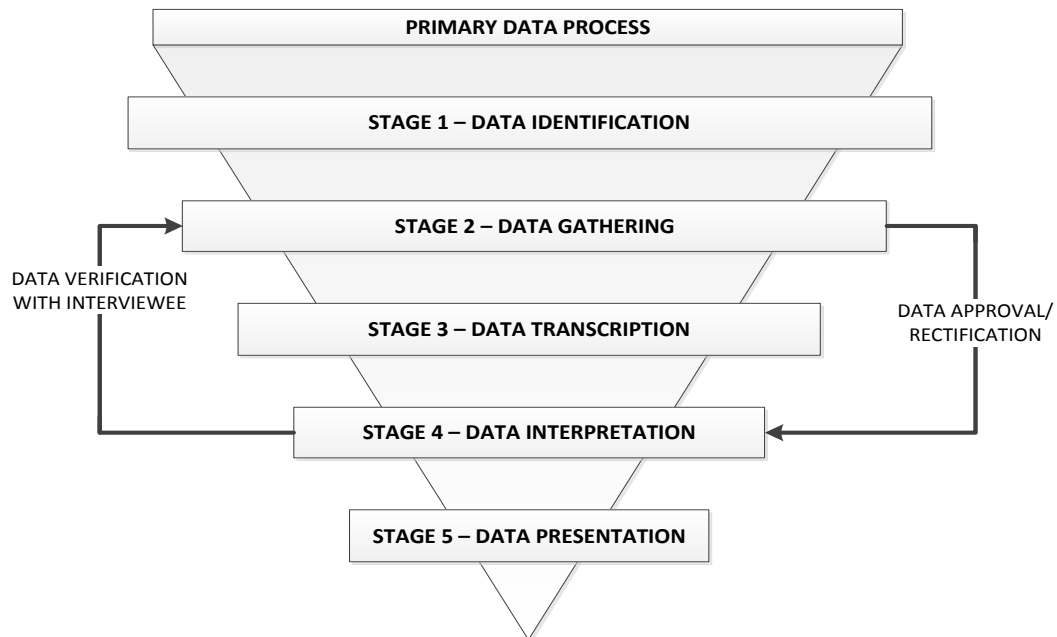


Figure 3 - Primary Data Process

Stage 1: The initial stage of the primary data gathering was as previously mentioned to identify interviewees following our selected requirements. In this stage we provided the interviewees with information regarding the purpose of our research project and an interview guide specifying the questions/theme we would cover as well as the ethical precautions practiced.

Stage 2: The data was gathered through face-to-face interviews and phone interviews and the data was captured through the means of an iPhone with the pre-installed recording application (Voice Memo). During the interviews conducted over the phone we were required to connect the phone to a laptop to use the speakers, which resulted in a lower sound quality in the recordings, however transcribing the interview was still possible and the data verified by the interviewee later on. During the interview, we asked follow up questions to either get clarification on a subject or to ensure that all areas of interest were indeed covered.

Stage 3: After the interviews we divided them equally (three each) and transcribed them in Swedish. This was done by listening to the recordings and typing down the conversation exactly as it happened. We then reviewed each other's work to ensure consistency in quality.

Stage 4: The transcriptions were later translated and summarized in English where only the most critical parts and quotes were included. After this was completed we send each interview summary to each interviewee respectively to ensure validity in our interpretation and/or possible rectification to our interpretations.

Stage 5: The interview summaries were then compiled into tables, segmenting them according to the interview questions i.e. all responses for interview question 1 into one table.

2.2.2 Analysis Process

The analysis process was a five stage process as can be seen in *Figure 4- Analysis Process* below. A deeper description follows after the figure.

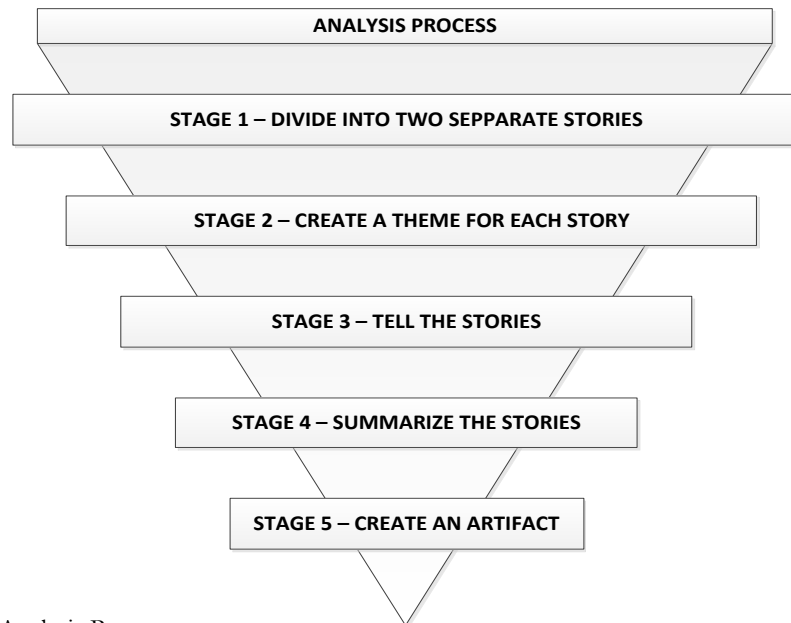


Figure 4 - Analysis Process

Stage 1: In the analysis process we decided to separate the two research questions into two stories, allowing us to focus on analyzing both in-depth in a stand-alone setting.

Stage 2: The second step was to create a theme i.e. a structure for the analysis story. For research question 1 we used Kotter's eight steps for change, which allowed us to make sure that we covered important factors regarding a project involving change. Into Kotter's eight steps we added elements from the other theoretical topics investigated (ERP & CSFs and Benefit Management) and our empirical findings, creating a discussion in each step of a supposed theoretical change project to answer our first research question. The second research question used its associated sub-questions and our interview guide as a theme for structure.

Stage 3: With the theme in place we proceeded with analyzing our findings.

Stage 4: After the separate analysis we summarized the findings from the analysis into a separate heading, combining the two stories.

Stage 5: After the summary we proceeded with the process of applying our analysis into the creation of an artifact. This process will be described below.

2.2.3 Artifact Creation Process

The artifact creation process was a seven stage process as can be seen in *Figure 5- Artifact Creation Process* below. A deeper description follows after the figure.

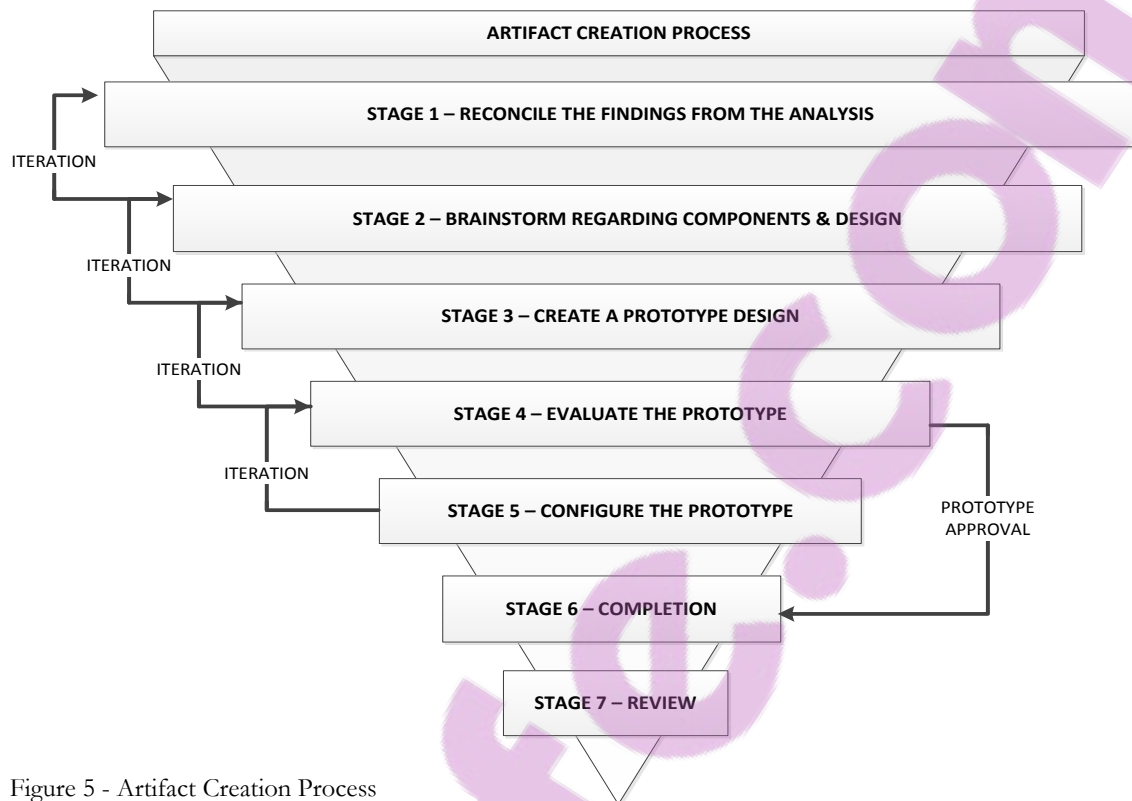


Figure 5 - Artifact Creation Process

Stage 1: The first step in creating an artifact was to reconcile with the findings from our analysis as they would support the structure and characteristics for the artifact.

Stage 2: With the findings reviewed, a brainstorming process took place to identify how the design could look like and how to include important components into it.

Stage 3: After the brainstorming, a first version of the prototype was created. After this stage we iterated the prototype against step 1 and stage 2 to ensure quality and rigor.

Stage 4: After interacting to stage 1 and stage 2, the fourth step allowed us to evaluate the prototype against the purpose of the thesis together with the analysis findings. After this, a second iteration back to the previous steps was done.

Stage 5: after the second iteration and second evaluation, configurations were made to the prototype to improve its quality. After this stage we iterated back to step 1 again, testing the artifact through each of the previous stages.

Stage 6: The design, creation, evaluation and configuration process was iterated until we felt that the artifact satisfied our partial thesis purpose of creating a supporting artifact in value realization in ERP projects. At that point we completed the model to prepare it for further scrutiny.

Stage 7: Once completed we evaluated the model through perceived threats described in *chapter 2.5.3 Threats to Validity* and *chapter 2.5.4 Threats to Design Science Validity*

2.3 Research Ethics

During the research process it is important to consider different ethical issues. Often a research project is exciting to the participant(s); however it is important to consider who you are targeted and how the research can affect them (Saunders et al., 2009). During our research project we have dealt with these ethical complications:

Anonymity: All of our interviewees have been given an alias, even if some would have been ok with using their own names, to ensure that interviewees and companies integrity has been preserved. In-house developed model(s) and method(s) have also been censored by name but the visual representation was not included.

Information and understanding: All of our interviewees were given information regarding the research purpose, that the interview would be recorded, that they would be able to remain anonymous and they also received the interview guide beforehand to get up to speed with it.

Interpretation: After the data was gathered we offered all participants the chance to review our translated summary to ensure that we were not misinterpreting anything. They were also offered the chance to add to the interview if they thought something was indeed misinterpreted.

Approval: During the interviews we obtained a collection of model(s) and method(s) which we asked for permission to use and include in this thesis. Furthermore we got in contact with a third party method by Microsoft, the Sure Step Methodology. To ensure that we did not overstep any boundaries we contacted Microsoft whom approved with us using their methodology.

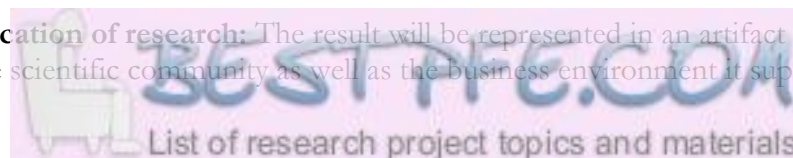
2.4 Application of Behavioral Science & Design Science

As previously noted in the previous part of the method chapter, we have applied a combination of behavioral science and design science philosophy/approach towards our identified information systems research problem. The reason for applying such a philosophical approach is linked to our research problem and purpose, to understand a problem within behavioral science and to create a design science artifact, making the result more applicable to the real-world problem as suggested by van Aken (2004). This section we will describe how we have used this approach to develop and conduct our research process.

Behavioral Science: As noted the by Hevner et al (2004), behavioral science aim to identify a *truth* regarding a certain phenomenon which enables predictions and generalizations to be drawn by the researcher in terms of social constructs and behavior. It has therefore been argued (Hevner et al, 2004) that while conducting research within the field of informatics, an initial focus on identifying and using models, methods and theories to create a valid knowledge base which supports the creation of an artifact. The behavioral science part also supports our primary data collection as it has guided our process of generating an interview guide and who might be viable for an interview.

Design Science: Described as containing two processes, *build* and *evaluate*, and four design artifacts, *constructs*, *models*, *methods* and *instantiation* by March and Smith in their work from 1995 (Hevner et al, 2004). Design science complements our initial behavioral science application in our research. The artifact produced as an output from the research can take the shape of one of the four mentioned above, it is however important to understand that different artifact suits different problems. In our research we have adopted a model perspective as we are aiming to enhance the understanding of a behavioral science phenomenon. The steps of design science are described below in the context of our research:

1. **Design as an artifact:** The output of the design science should be a viable artifact. In our case this artifact will take the shape of a model.
2. **Problem relevance:** Through the artifact we aim to enhance the knowledge of value realization and ERP implementation. This serves the purpose of contributing to IS research as well as suggesting a solution to a practical business problem.
3. **Design evaluation:** The model should be rigorously evaluated to ensure quality. In our research the practical evaluation will not be probable due to restrictions to our research environment. However, we aim to evaluate it extensively through the empirical material gathered and established research in the field. The threats to the artifacts validity will be discussed at length later in the chapter called *2.4.3 Threats to Validity*.
4. **Research contributions:** The contribution aim is primarily towards the behavioral science phenomenon identified, although the artifact created should also hold internal validity towards itself in regards to the phenomenon. Limitations to the contribution will be discussed in the chapter *2.4.3 Threats to Validity*.
5. **Research rigor:** The artifact will be rigorously evaluated and elaborated upon by using theoretical references identified along with the empirical data collected during the research project.
6. **Design as a search process:** The development of the artifact will follow the limitations and guidelines of the research project, which can both, strengthen the result or inhibit it.
7. **Communication of research:** The result will be represented in an artifact adapted both to the scientific community as well as the business environment it supports.



2.5 Credibility

According to Saunders et al. (2007), credibility is one of the most important factors during the research project. Without credibility, the findings of the research could become questionable or even nullified in the worst case scenario. One can never know if the results gathered are representative to the conclusions drawn, but with a good research design, the authors can increase the credibility through reliable and valid methods of approach to their research. A challenge for us as researchers is to achieve high contributions to the field of academics while on the same time close the credibility gap. BusinessDictionary.com offers a definition of what credibility gap is:

Difference between high expectations aroused by unrealistic claims, and the actual performance of a product or service. – BusinessDictionary.com, 2012

A good research structure also demands good reliability and validity from the authors. Golafshani (2003) discuss how validity and reliability is handled in qualitative research. While the credibility in quantitative studies depends on instrument construction, the credibility in qualitative research depends on the researcher since he or she is the instrument (Golafshani, 2003). Therefore, the credibility of a qualitative research will depend on how skilled the researcher is and how he or she carries out the research. Golafshani (2003) points out that reliability and validity is separated in quantitative research but not in qualitative studies, terminology such as credibility, transferability and trustworthiness is used instead.

2.5.1 Reliability

Reliability refers to testing and evaluating quantitative research results, but is also used in other types of research. According to Golafshani (2003) a good qualitative study can help us understand a situation that would be confusing otherwise. While reliability in quantitative research evaluates the study with a purpose on explaining, qualitative research reliability refers to the purpose of generating an understanding (Golafshani, 2003). Stenbacka (2001) is of the opinion that reliability can be misleading in qualitative research and that if reliability is one criterion of a qualitative study to be discussed, the majority will most likely come to the conclusion that the study is unsatisfactory. Although, Patton (2001) believes that both validity and reliability should be taken into consideration by a qualitative researcher when designing a study, analyzing the results and evaluating the quality of the study. Saunders et.al (2007) defines reliability as: *"The extent to which your data collection techniques or analysis procedures will yield consistent finds"*

This means that there are reliability requirements which we as researchers must fulfill to ensure that our work is reliable. These are:

- If the same results would be reached if the research was conducted at another point in time
- If the observations would be accomplished with the same or similar results regardless whomever performs the research/observations
- If the conclusions made from the primary data collected are transparent

To ensure that our work is reliable we will collect information from acknowledged secondary sources through highly regarded tertiary engines, such as Emerald Insight or Diva. We will also use a set number of criteria when selecting consultants for our interviews and seek to involve multiple views when talking this field of study.

2.5.2 Validity

According to Saunders et al. (2007) validity in terms of research can be defined as; "*whether the findings are really about what they appear to be about.*" The view of validity differs significantly regarding the approach of the research. Since we are focusing on obtaining qualitative data from an interpretivistic point of view, the need for a statistical generalization through large quantities is outside our scope of research. Instead we will focus on obtaining qualitative validity.

Golafshani (2003) states that validity in qualitative research is not described as one single fixed concept, it is instead grounded in the processes and intentions of some research methodologies and projects. According to Golafshani (2003) some researchers argue that validity is not applicable to qualitative studies, but that there still is need for some qualifying check or measure for their research. Many researchers have therefore adopted their own concepts of validity and have adopted terms that they believe are more suitable such as quality, rigor and trustworthiness (Golafshani, 2003). Ghauri and Grønhaug (2010) discuss the concept of qualitative validity and the following four types of validity that is emphasized in qualitative research:

- Descriptive validity
- Interpretive validity
- Theoretical validity
- Generalizable validity

Descriptive validity, according to Ghauri and Grønhaug (2010), refers to the extent to which the actual description holds true. *Interpretive* validity represents the accuracy of the interpretation. Is the interpretation expressed correct? *Theoretical* validity measures if the theory or explanation suggested by the researcher really represents the reality. *Generalizable* validity refers to what extent the results from a research can generalize to other settings. To ensure the validity through the four above mentioned validity concepts; descriptive, interpretive, theoretical and generalizability, we will work with a significant amount of secondary literature sources from authors well represented in this field of study. Through this literature review and gathering we will be able to extract concepts that generate a valid perception of this research. With strong and valid concepts we will then build our interview questions upon which we will base our primary data collection. Through strong concepts and clear theoretical definitions of this field of study, we should be able to investigate identified phenomenon and contribute to the understanding of benefit management and value realization during ERP projects.

2.5.3 Threats to Validity

The validity of our research will have to be scrutinized after a number of identified threats. The common research threats identified by Saunders et al. (2007) are as following and below them we will present how we dealt with them during the research:

History: Could any external event/factor have affected the result of the research?

Our resort: During our research we have been fortunate to have identified a rather slow moving problem as the industry the phenomenon exists within does not change drastically overnight. This has allowed us to study the phenomenon and conduct interviews without the fear of significantly different results being obtained should we have conducted our empirical gathering earlier or later during the project.

Testing: If the interviewee of the person being observed knows he or she is observed for a specific reason, that person may not behave *normally* and the test result could be inconclusive for the research.

Our resort: Since we informed the interviewees regarding our aim and the interview questions beforehand, they had the chance to prepare themselves. Because of this some information obtained could be biased in a positive way e.g. the interviewee presents his or her company in a brighter day than is true. However, because of different interviews conducted at different firms, we had the possibility to compare data between interviews and thus minimize the risk of drawing conclusions on faulty data.

Instrumentation: How the observation/testing/interview has been done and how did this affect the result.

Our resort: The interviews were done via face to face meeting and via phone. The face to face meeting let the interviewee read our body language and respond more easily to follow-up questions which created a bit more depth compared to those conducted via phone. The phone interviews suffered from the lack of physical presence which made it harder to use follow-up questions. However, the results of the interviews were very similar regardless of media used and all participants had the same advantage to prepare for the interview and voice their own opinion without their researchers controlling the discussion too much.

Mortality: Participants dropping out or is unable to fulfill their role in the research ex: follow up interviews.

Our resort: The interviewees all agreed upon being contacted in the future should such need arise and have hold that promise to the researchers.

Maturation: Time can affect how for example interviewees perceive or behave around a certain problem e.g. a new management policy could be enforced.

Our resort: As mentioned in the discussion regarding validity threats due to *history*, the research problem is a rather slow moving compared to other research problems. This has fortunately supported us in the validity of our data not suffering from external events or time based factors as the problem has been identified as existing long before our research and will most likely continue to exist sometime after the research.

Ambiguity about causal direction: Try to understand *what* is causing *what* and to *what* end. This is a rather difficult threat to understand and identify but important to consider.

Our resort: The challenges for us were to understand why interviewee's answered a particular interview question in a particular way. To get a deeper understanding of the causal relationship between the answer and the interviewee, we added follow-up questions to clarify the answers to avoid misinterpretation.

The threats offered by Saunders et al (2007) are similar to the threats suggested by Ghauri and Grønhaug (2010) but also manage to add at least one more threat to validity:

Selection Bias: The selection process of respondents may be affected by the researchers.

Our resort: As discussed in our sample chapter we have used judgment and convenience as approach when selecting interviewees. However, the selection bias has not caused invalid data to be collected. Those selected were chosen based on their professional skills and their availability for our research, but we did not have any particular notion of how they would respond to our question. This means that the answers we got were not anticipated from start or expected.

Summarizing the threats to validity, we know how they can affect the outcome of our study. However, by knowing about them we also worked with understanding how we can eliminate them from the results. In the process of creating our design science artifact we have thoroughly thought about the threats to its validity in terms of what information we have used. The validity of our artifact will be discussed next in this chapter.

2.5.4 Threats to Design Science Validity

As described the in the beginning of the method chapter, design science researcher Hevner (2004) suggests a seven step model for creating an artifact. In this chapter we will discuss the challenge we had to endure in creating our artifact in the context of these steps. The steps that we have deemed directly related to the topic of validity are:

Step3 – Design Evaluation: The steps suggest that the artifact should be rigorously evaluated to ensure quality. In our project we will not be able to test the artifact in a *real* environment. However, we have worked hard with ensuring an internal validity through the application of theories and empirical data gathered. From this we have created an artifact that represents a hypothesis of what kind of model could solve the identified problem. However we still understand the limitations of such an artifact since we cannot measure or test it during this project.

Step4 – Research Contributions: As explained in the previous step, the validity of the artifact strongly hangs on the internal validation of the artifact. This also means that the research contributions made during the project will be theoretically oriented and requires further testing and application before large scale generalizations can be made. Any external generalizations that will be drawn from the artifact will be theoretical assumptions by the authors.

Step5 – Research rigor: As the project hinders us from applying testing and measuring of the model, the model will be rigorously evaluated from a theoretical and hypothetical point of view. This enables the authors to abstractly evaluate and create an artifact the could support future work in creating an externally stronger artifact for the identified problem

3 Theoretical Framework of Reference

In this chapter, the authors will present the relevant theories to the purpose of the research. The first part focus on the concepts change management. The second part focus on enterprise resource planning systems & associated critical success factors, and the third part will focus on benefits management & key performance indicators.

3.1 Change Management

The change problem inside organizations would become less worrisome if the business environment would soon stabilize or at least slow down. But most credible evidence suggests the opposite: that the rate of environmental movement will increase and that pressures on organizations to transform themselves will grow over the next few decades –John P. Kotter, 1996

The *Change Management* chapter will cover the concept of change management/leadership and project management/leadership and how they affect large scale change projects within organizations.

3.1.1 Change Leadership

The theory and practice of change management suggests that while incremental change requires significant management skill to monitor and evaluate the existing business performance, it is suggested by author John P Kotter (1996) that while management is essential, what is really needed in transformational change is leadership.

*“Management is a set of processes that can keep a complicated system of people and technology running smoothly. The most important aspects of management include planning, budgeting, organizing, staffing, controlling and problem solving. Leadership is a set of processes that creates organizations in the first place or adapts them to significantly changing circumstances. Leadership defines what the future should look like, aligns people with that vision, and inspires them to make it happen despite the obstacles.”
– John P Kotter, 1996*

According to Roger Gill (2003) the reasons change programs often fail is because of poor management; poor planning, monitoring and control, lack of resources and know-how, and incompatible corporate policies and practices. The reasons for these shortcomings may vary from organization to organization as the condition for change remains unique in each case as it involves human activity systems as well as hard technological systems. However, there are suggestions on what is necessary for a successful organization change, one being the need of a leader steering the change.

Kotter (1996) describes an eight step approach in his book, *Leading Change*:

1. **Establish a sense of urgency:** Kotter (1996) advocates that for change to happen it is important that you create a sense of urgency in order for everyone to feel that a change is needed. This might help to raise the motivation to change.
2. **Creating the guiding coalition:** It is important to have strong leadership that can convince people and guide the change. Kotter (1996) recommends that you identify key people in the organization that will act as leaders in the change project, continuing to build on the urgency for change.
3. **Developing a vision and a strategy:** Kotter (1996) argues that a clear and concise change vision that is easily understood by the employees needs to be developed. A strategy for how this vision will be attained must also be developed.
4. **Communicating the change vision:** The change vision and the strategy for achieving it needs to be communicated to the employees (Kotter, 1996). This will result in more people buying in to it and accepting the change. It should be kept fresh in everyone's mind.
5. **Empowering broad-based action:** In the fifth step, employees should be empowered to act on the change vision and remove obstacles that are hindering the change project (Kotter, 1996). A structure for change should be developed.
6. **Generating short-term wins:** Success is a motivational factor. It is therefore important that short-term wins are generated to show the employees results of the change project (Kotter, 1996). People opposing the change might damage the progress if no results are presented.
7. **Consolidating gains and producing more change:** Kotter (1996) state that in many cases, victory is declared too early and this is the reason for their failure. It is important to continue building on the change and not become complacent.
8. **Anchoring new approaches in the culture:** Kotter (1996) points out that it is important to make the change stick making it a part of the organization's core. Continuous efforts should be made to ensure that change is present in the organization.

The steps presented by Kotter have also been identified by other authors which suggests towards a consensus of what requirements are needed during a transformational change process. Similar to Kotter, Covey (1992) suggests that:

"Without strategies for change, vision is a dream. Strategies are ways of pursuing the vision and mission; they are informed by vision, mission and values. Strategic plans are 'road maps' for changing terrain where a compass (vision) is needed." - Covey, 1992

In his article from 2003, Roger Gill lists two more authors (Eden & George) discussing the need for creating a clear vision and getting commitment for the change that is identified. This also incorporates creating a strategy to successfully fulfill the change as well. According to Gill (2003) author Colin Eden suggests in his work from 1993 (*Strategy Development and Implementation: Cognitive mapping for group support*) that:

"A key issue with the effectiveness of strategies is where their ownership lies and commitment to them: effective strategy development taps the wisdom of people in the organization"

together with a quotation from William W. George (Gill, 2003) in his article from 2001;

"Employees can adapt to major strategic shifts as long as the company's mission and values remain constant"

presents examples of how change leadership differs significantly from change management. Instead of focusing on performance measures solely for improvement, there is a need to take the initial change need discovery one step further. When a change need is discovered during the incremental improvement cycles, it may be qualified as game changing e.g. fine tuning the machinery no longer works, deeper change is required. When such a thing happens, a different approach is needed. The authors listed above suggest that there is a strong need for developing a *vision* of what needs to be done. Furthermore this vision needs support. Compared to incremental change, transformational change may be of a volatile nature and be very costly for an organization in terms of resources (human capital, time and/or money). The transformational change may also be unknown, meaning, the effect may not be as clear as with incremental change as there are more factors that has to be measured. Before a transformational change can occur, there is a strong need to evaluate the need for change and what nature it incorporates.

3.1.2 Diagnosing the Need for Change

The business analysis and diagnosing the organization has been touched upon in previous chapters regarding different approaches to quality management e.g. Six Sigma or TQM. Using those methods, the result usually results in a reduction of waste. If, however, the analysis of the business suggests that there is neither a need for efficiency improvement nor innovation, as discussed by Strebel in his cycle of competitive behavior (Hayes, 2007), there might be a different need for the organization to use a different approach towards improvement. Firstly it is important to evaluate the nature of the change need. This can be done by applying different models and or methods to capture the existing domain, such as PESTLE (*Political, Economical, Societal, Technological, Legal and Environmental*) or SWOT (*Strengths, Weaknesses, Opportunities and Threats*) which analysis the business from an external vs. internal fit perspective. Another approach is suggested by Kotter and his *Integrative model of organizational dynamics* (Hayes, 2007). Kotter suggests that it is important to understand each main part of an organization and how they affect the key organizational processes, see *Figure 6 – Integrative Model of Organizational Dynamics* below:

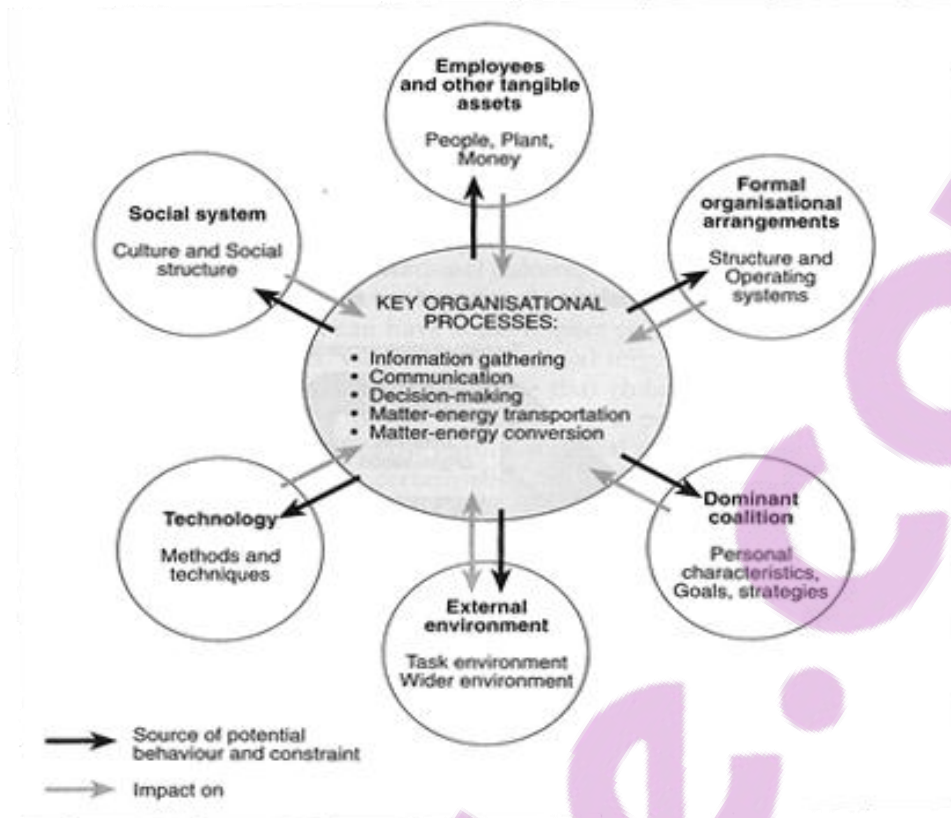


Figure 6 - Integrative Model of Organizational Dynamics (Hayes, 2007)

According to Hayes (2007), a change project involving an ERP system would then be considered more of a transformational change project by nature since the project affects the organization on a deep scale, both adapting to existing processes, but also bending processes around it. Therefore we suggest that when evaluating a need for change in terms of ERP systems, there is a strong need to evaluate it from a perspective that suggests deep change within an organization. Burke and Litwin offer a complementary model further explaining the organizational change domain *Figure 7- The Transformational factors* (Hayes, 2007):

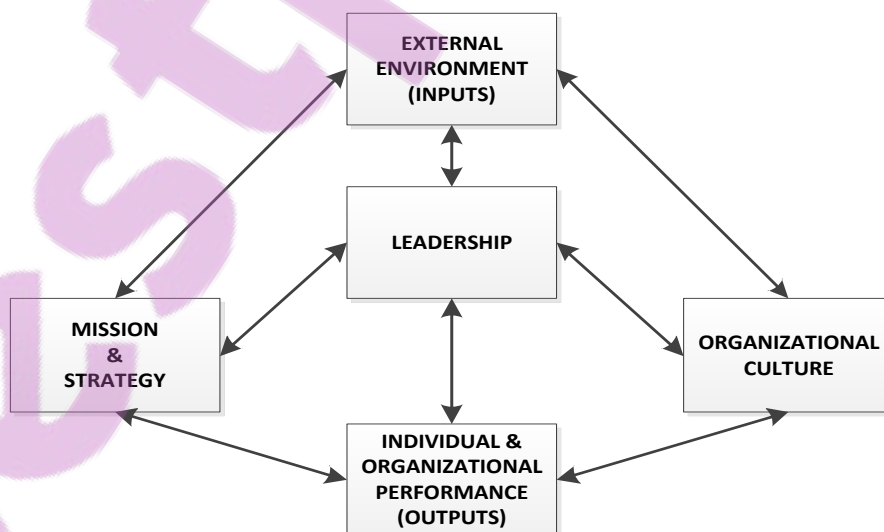


Figure 7 - The Transformational Factors (Hayes, 2007)

A transformational change involves the mentioned parts above and will affect the deeper structure of the organization. Although that being said, the change may bring incremental changes as well since the target still is improvement, however processes already established requires to be evaluated to understand what system solution is necessary, if any, and what processes should remain and let the ERP solution be tailored around them, and vice versa.

3.1.3 Business Process Analysis & Enterprise Modeling

According to Ward & Peppard (2002): *”business process analysis is a technique for assessing the effectiveness of core business processes in support of business objectives and drivers from one or a number of SBUs (Strategic Business Unit), or from specific business areas within an SBU”*

The need for conducting a business process analysis predicated the understanding how the change need identified will affect the current situation on both macro and micro level. When the change need has been specified, an organization has to focus on understanding how the current situation actually is. The analysis will typically adopt a AS-IS approach which, suggested by authors such as John P. Kotter (Ward & Peppard, 2002), emphasizes on a modeling process that will try to capture different elements that has been deemed as important.

In *Figure 6 - Integrative Model of Organizational Dynamics* (Hayes, 2007), Kotter’s model suggests what components are important in understanding the business situation. Similar to Kotter (1996) and Bubenko Jr, Persson & Stirna (2001) suggests a modeling approach capturing; *processes, actors & resources, technical components, business rules, important concepts & their relations and goals & problems*. The specific name of the modeling method was *Enterprise Knowledge Modeling (EKD)* (Bubenko Jr et.al, 2001).

The purpose of using modeling as a tool for identifying the existing processes fuels the vision in clarifying why a change might be needed in an organization. Suggested by Kotter (1996) in his steps 3-5, there is a need to create a strategy, communicate it together with the vision and empower different actors within the organization. Rather than using an abstract vision, the company could then involve influential/knowledgeable employees in capturing the organization through modeling workshops. This would as Kotter suggest (1996) empower employees to participate in the change work and as suggested by Bubenko Jr, et al, (2001) support the creation of a shared understanding of the current business.

The end product would then display a current, AS-IS scenario, and a future, TO-BE scenario. The difference between these two scenarios is commonly called a GAP, and the processes of understanding how to bridge them, a GAP analysis. Businessdictionary.com (2012) offers this simple definition of GAP analysis:

”A technique for determining the steps to be taken in moving from a current state to a desired future-state”– Businessdictionary.com, (2012)

According to Ward & Peppard (2002), the assessment of business processes and organizational conditions should then provide an understanding of how the current processes and components (actors and resources) are meeting the business objectives and drivers. The goal is to understand where the greatest opportunities of improvement exist in terms of meeting and improving the business objectives and drivers.

3.1.4 Change Agents & Roles

During the ERP project there is a demand for different roles to structure the different stages and make sure that someone owns specific tasks, making them responsible.

One change agent already identified is the leader of the change. Weick & Quinn (1999) suggests that the leader has the role of the prime mover, whom is the one responsible for creating change. In the eight step model by Kotter (1996) it is further elaborated that the change leader is involved with aspects such as creating a vision, gathering and involving a strong guiding coalition consisting of influential individuals such as the CEO or senior management, communicating the change vision and empowering other employees. This is further linked to Weick & Quinn (1999) as Kotter (1996) describes the need for a leader that not only leads the change, but also to live and breathe the change.

While the role of the leader is significant in rallying employees to the cause, there are several other roles of equal important as well. In the article by Eisenbach et al (1999) the role of the manager is discussed in terms of how they can support the leader in structuring the change and how their involvement impact on the *environment* targeted for change. Eisenbach et al (1999) quotes findings from Brown & Eisenhardts publication from 1997, where they suggest that three characteristics of the manager helped in successful change. The first attribute was the successful delegation of work, i.e. clarifying roles and responsibilities and then extensively communicating this through the organization. This led to a more open environment with freedom for change rather than creating inertia. The second attribute was supporting the study of the future, testing new procedures or brainstorming for new ideas. Thirdly, and very importantly, these managers supported the linking of current project with the future.

3.1.5 Anchoring the Change

Towards the end of the project and when milestones have been reached, it is according to Kotter (1996) very important that the change that has been made up until that point is reinforced into the organization. While Kotter (1996) discusses the need for celebrating wins as one of the important change steps, the organization may not receive any benefits intended until the changes are in place. Kotter (1996) therefore suggests that the combination of celebrating short term victories is a stepping board in make what has been changed into a part of the organization. It is also through these shorter wins that the bigger change can be broken into smaller pieces which are easier for the organization to adapt to and anchoring it in a smooth way rather than focusing on completing the whole task at once.



3.2 ERP Systems & Critical Success Factors

The *Enterprise Resource Planning & Critical Success Factors* chapter will cover the concept of *enterprise resource planning system implementation approaches, a set of development methods and Critical Success Factors in ERP projects*.

3.2.1 Implementation Approach

Implementing an ERP system is very challenging even without taking the current business processes into consideration and the changes needed to those processes based on the functionality of the new system. Motiwalla and Thompson (2009) stress the fact that if the current business processes are not analyzed and compared with the functions of the new system, it is quite possible that several significant modifications to the ERP system will be required after it has been implemented. It is therefore important that a decision is made regarding the number of modifications that should be made to the ERP system. An ERP systems implementation with a significant amount of modifications to it can increase the success with the users since it has been tailored according to the users' requirements, but many modifications increase the investment in the ERP system and also results in a higher implementation risk (Motiwalla and Thompson, 2009). These modifications must also be addressed for every system upgrade, which will result in a more expensive system in the end. According to Motiwalla and Thompson (2009) most purchased ERP systems today are minimally modified in order to protect the investment. This approach requires the company to realign their business processes according to the ERP system in order for it to work properly (Motiwalla and Thompson, 2009).

Anderson et al. (2011) discuss that there are two ways of approaching the implementation of an ERP system, either to do the implementation quickly or to implement the ERP system specially customized to the organization. The quicker approach is a technology-driven approach while the slower (traditional) implementation adopts a strategy to redesign processes, technology, and to change people. The slower traditional implementation puts the emphasis on mapping the current situation (AS-IS) and how it should be when the ERP has been implemented (TO-BE). A large amount of time is spent to make the organization and the ERP implementation unique from its competitors in order to obtain a competitive advantage (Anderson et al., 2011).

3.2.2 Development Approach

Development during an ERP project can be approached from different perspectives. If the system is to be developed from scratch, one of the most common and traditional approaches are the Information Systems Development Life Cycle (SDLC), sometimes also referred to as the Waterfall approach (Avison & Fitzgerald, 2006). Even though there are many versions of the SDLC the most basic structure consist of the following six stages; *Feasibility study, Systems investigation, Systems analysis, Systems design, Implementation, and Review and Maintenance*. An alternative to the more traditional SDLC is agile software development methods, which were development and became popular as a result of the requests for speeding up the software development process (Avison & Fitzgerald, 2006). Cohen et al. (2003) have also identified that many customers are unable to specify their exact needs at the start of a project while they at the same time have higher expectations on the software. It is not uncommon those new user requirements arise during the project and that existing requirements are changed, which results in a halt in the project in order to accommodate the new changes (Cohen et al., 2003). This is where an agile method will be an efficient

choice for developing the software since the core foundation of agile methods is, according to Highsmith et al. (2000), to:

“Deliver quickly. Change quickly. Change often”

There are several different agile methods, e.g. Extreme Programming and Scrum, and though they differ in practices and emphasis, they share characteristics such as; iterative development and a focus on interaction, communication, and reducing resource intensive artifacts (Cohen et al., 2003). The iterative development allows for the development team to respond and adapt to changing requirements faster.

3.2.3 Critical Success Factors in ERP implementations

Implementing an ERP system is an expensive task that is far from free of risk. According to Umble et al. (2003) 65% of executives believe that an ERP system has a chance of damaging their business because of the potential problems associated with the implementation. Therefore, it is of interest to identify the factors that will make the implementation a success. Umble et al. (2003) have identified the most apparent of these.

Clear Understanding of Strategic Goals: It is vital that everyone involved in the project has a clear understanding regarding the strategic goals. This means that there must be clear definitions of the goals, expectations, and what is to be delivered. Umble et al. (2003) states that: *“ERP implementations require that key people throughout the organization create a clear, compelling vision of how the company should operate in order to satisfy customers, empower employees, and facilitate suppliers for the next three to five years.”* It is also important that an explanation of why the ERP system is being implemented and which critical business needs it will fulfill (Umble et al., 2003).

Top Management commitment: For any project to be successful it requires strong leadership, commitment, and participation from top management. Umble et al. (2003) are of the opinion that:

“Since executive level input is critical when analyzing and rethinking existing business processes, the implementation project should have an executive management planning committee that is committed to enterprise integration, understands ERP, fully supports the costs, demands payback, and champions the project.”

Excellent Project Management: An ERP implementation is a vast and complicated project. It is therefore important that the organization engage in excellent project management (Umble et al., 2003). This involves several parts such as a clear definition of the objectives, development of both a resource plan and work plan. It also includes careful tracking of the project’s progress. Umble et al. (2003) point out that these tasks along with the project plan should be made achievable but at the same time scheduled in a way to maintain a sense of urgency. Umble et al. (2003) also point out the importance defining the project objectives in a clear way in order to help eliminating *scope creep*, which is the term for uncontrolled changes or continues growth to a project’s scope.

Organizational Change Management: According to Umble et al. (2003) the existing organizational structure and processes are not compatible with the structure, tools, and types of information provided by the new ERP system. Even the most flexible ERP systems have its own logic that affects the implementing company’s strategy, organization, and culture. It is therefore crucial that during an implementation the company adopts change management practices in order to reengineer the key business processes to support the new ERP system and the organizational goals. Umble et al. (2003) have also identified that

many executives view ERP as only a software system and that the implementation of it is primarily a technological challenge, which, according to Cohen et.al (2003), is wrong. Motiwalla and Thompson (2009) also identify Change Management as a critical success factor and discuss that it is natural for people to resist change.

Great Implementation Team: Umble et al. (2003) discuss the importance of the implementation team and stress that the team should consist of top-notch people who are chosen for their skills, reputation, past accomplishments, and flexibility. Motiwalla and Thompson (2009) agree with this and have also identified the implementation team as a critical success factor. The implementation team has an important role to play since it is responsible for creating the detailed project plan or overall schedule for the entire project, assigning responsibilities for various activities and determining due dates, and also make sure that the needed resources are available (Umble et al., 2003).

Data Accuracy: Umble et al. (2003) stress the importance of accurate data for the ERP system to work properly:

“Because of the integrated nature of ERP, if someone enters the wrong data, the mistake can have a negative domino effect throughout the entire enterprise. Therefore, educating users on the importance of data accuracy and correct data entry procedures should be a top priority in an ERP implementation.”

It is also crucial to make sure that everyone in the organization works with the system and not around it. Umble et al. (2003) states that the employees must be convinced that the organization is committed to using the new system and are planning to eliminate the old. Running the two systems in parallel for too long will result in employees continuing to use the old system instead of the new one.

Education and Training: This is one of the most important factors deciding whether a project will be successful or not since user understanding and acceptance is essential. Umble et al. (2003) mention the importance of teaching user to solve problems within the framework of the system. The end user training should also start as soon as possible in order for the result to be as good as possible. According to Umble et al. (2003) many executives underestimate the level of education and training that is needed and also state that:

“Top management must be fully committed to spend adequate money on education and end user training and incorporate it as part of the ERP budget.”

Umble et al. (2003) also state that training should still be carried out after the implementation has been finished.

Focused Performance Measures: According to Umble et al. (2003) performance measures that assess the impact of the new system must be carefully constructed to make sure that they really indicate how the system is performing. Project evaluation measures should also be included from the beginning and if the system implementation is not tied to compensation and bonuses, it will not end in success. Umble et al. (2003) state that if managers still receive their bonuses even if the system is not implemented it is less likely that the implementation will be successful. According to Umble et al. (2003):

“Management and other employees often assume that performance will begin to improve as soon as the ERP system becomes operational. Instead, because the new system is complex and difficult to master, organizations must be prepared for the possibility of an initial decline in productivity.”

3.3 Benefit Management

The *Benefit Management* chapter will cover theories and methods such as: *Benefit Management & Best Practice Guidelines*.

3.3.1 Benefit Management & Best Practice Guidelines

“Once of the factors that differentiates successful from less successful companies in their deployment of IS/IT, according to a number of surveys, is the management resolve to evaluate IS/IT investments before and after they occurred” – Ward & Peppard, 2002

Presenting findings that suggests that only 26% out of 60 investigated organizations review projects after their completion, and 45% admitting that benefits had been exaggerated to gain project approval, Ward & Peppard (2002) discuss the area of benefit management in IS/IT investments. According to Ward & Peppard (2002) a problem with benefit management lies in how it is applied. 76% of the investigated 60 organizations perceived an opportunity to become better in managing benefits in projects, but only 10% presented defined processes it (Ward & Peppard, 2002).

It is further suggested by Ward & Peppard (2002) that the benefit management process is a big part in an investment project, not just in the initial investment appraisal, and should more or less be combined with the change management part of the project, turning the project into an organizational change project rather than a IS/IT project. Ward & Peppard (2002) suggests that by integrating the benefit management process into the whole project, making it more complex, the value of the project can increase. Important questions to start with are (Ward & Peppard, 2002):

“Why is the investment being made – what is causing the organization to change and how critical to its future is the successful management of the changes? (Benefit drivers)” - (Ward & Peppard, 2002)

“What types of benefits is the organization expecting from the investment overall – to reduce costs, improve operational performance, gain new customers, create a new capability, etc? These need to be understood in general terms before detailed analysis of potential benefits in relation to the extent of change requires is undertaken.” - (Ward & Peppard, 2002)

“How will other activities, strategic initiatives, business developments, or organizational issues affect the particular investment either to facilitate or inhibit its progress and outcome? (The organizational context)” - (Ward & Peppard, 2002)

Ward & Peppard (2002) also offers a model which tries to capture the domain of benefit management, which can be seen in *Appendix 4; Figure 10 – Benefits Management Context*.

To work with the *why*, *what* and *how* questions in the identified benefit management domain and to integrate the benefit management process into the whole project process, Ward & Peppard (2002) offers a set of *best practice guidelines* and an overall model of the benefit management model can be seen in *Appendix 4; Figure 11 – A Process Model of Benefit Management* (Ward & Peppard, 2002)

Stage 1 Identification and Structuring of Benefits: In stage one the investment process is taken one step further and the process of identifying and structuring benefits is undertaken. Based on the initial strategic evaluation of *why*, *what* and *how* a rationale can be made regarding the intended investment, is it *strategic*, *high potential*, *support* or *key operational* (see *Appendix 4; Figure 9 – Generic Source of Benefit for Different Applications, Ward & Peppard, 2002*). If the projects benefits are deemed to be *high potential* and a bit unclear, there may be a need for processing it through further R&D to make them better known. By structuring the benefits, an understanding of how the benefits affect the organization is obtained and even more benefits can be discovered. It is however, important to link all the benefits back to the initial benefit drivers discovered in the initial strategic *why* process. With benefits identified, it is then important to make them as measurable and tangible as possible, even though some are harder than others to measure. Preferably they should also be quantifiable. In the end of this stage, benefits owners are assigned to each benefit to make sure that at least one individual is responsible for realizing each benefit (Ward & Peppard, 2002).

Stage 2 Planning Benefits Realization:

With the benefits identified and structured, as well as individuals assigned to them, the next stage is planning the realization stage. In this stage the output, or goal, is a *benefit dependency network*, *stakeholder analysis* and an *investment proposal*. According to Ward & Peppard (2002), the dependency network will generate a cause-effect schema with identified changes required for intended benefits. An example of a *benefit dependency network* can be found in *Appendix 4; Figure 12 - Example of (part of) benefits dependency network - sales and marketing system (Ward & Peppard, 2002)*.

It is further suggested that this is done in workshops in iterative steps so that the feasibility can be evaluated and questioned. The changes necessary can, according to Ward & Peppard (2002), be one of two types;

Business changes: are changes that affect processes and practices within the organization. They can usually not be done before *enabling changes* has been carried out or before the new systems is available (Ward & Peppard, 2002).

Enabling changes: are changes that involve defining and agreeing upon new work practices, redesigning processes, changes to job roles and responsibilities etc. (Ward & Peppard, 2002). Enabling changes are often seen as essential for bringing in the new system into effective operation and can often be made in conjunction with the project and before the new system (Ward & Peppard, 2002).

Similar to the identified benefits, it is important to assign roles and responsibilities to identified changes required as well. The importance of this step also lies in the need for understanding the feasibility of proposed changes. According to Ward & Peppard (2002) it is required to conduct a thorough *stakeholder analysis* to first understand the feasibility, and then to assign individuals and/or teams to specific changes, making them responsible. It is in this step that the “*what’s in it for me?*” problem is handled, also called inertia for change by Kotter (1996), and a gap analysis is done to see if changes can be done or if the change goals needs to be revised. The *stakeholder analysis* is necessary according to Ward & Peppard (2002) as they perceive the lack of cooperation between parties involved and not involved in the project to be a contributing factor towards project failure. A party may not be deemed necessary for project success, but may be vital for project acceptance (Ward & Peppard, 2002). With a *stakeholder analysis*, Ward & Peppard (2002) suggests that identifica-

tion of disbenefits can be solved calmly as opposed to if they would have emerged as nasty surprises later on due to inadequate analysis.

The *stakeholder analysis* technique Ward & Peppard (2002) propose was devised by Benjamin and Levinson for their publication *A framework for managing IT-enabled change* in the Sloan Management Review from 1993. The model can be found in *Appendix 4; Figure 13 – Stakeholder analysis from Benjamin and Levinson (Ward & Peppard, 2002)* with sample data.

According to Ward & Peppard (2002), “each stakeholder group is considered in terms of the extent to which they perceive the project produces benefits for them, relative to the amount of change they will have to undergo or endure before they see the benefits”.

From the *stakeholder analysis*, the gap between benefits and change can be determined to avoid risks and to handle risks that cannot be avoided. Stage 1 and Stage 2 is according to Ward and Peppard (2002) a series of questions to develop a robust business case. When a *benefits dependency network* and a *stakeholders analysis* has been completed, the project should have evaluated the benefits and their feasibility to reach them and are now ready for developing and presenting the business case.

A business case can be presented in different ways, depending on the organization or the investment itself. For the benefit guidelines Ward and Peppard (2002) suggests that benefits should be expressed in tabular rather than a list showing (a) how they arise (the columns) and (b) how explicitly they can be stated in advance (the rows). The investment proposal could therefore look like *Figure 14 – Investment Proposal – making the case (Ward & Peppard, 2002)*, which can be found in *Appendix 4*.

The rows in *the investment proposal* attribute the identified benefit with a measure or measures to define how its delivery will be assessed (Ward & Peppard, 2002). These measures may be specific, objective measures (*measurable*) or informed subjective assessment (*observable*). *Quantifiable* benefits are those for which sufficient evidence or data exists to forecast how much improvement should result from the changes (Ward & Peppard, 2002). Although *quantifiable* requires more work, it could be beneficial if the benefit identified is regarded to be of high value and requires robust motivation in the business case. Once the benefits can be calculated, they could be expressed as *financial* as the benefits and risks are described in a more structured way. Ward and Peppard (2002) offer examples of what kind of benefits fit in each row and columns:

“If there are no quantifiable or financial benefits that can be explicitly described, then either the investment is not viable or the project is still high potential at this stage and further R&D is needed.

Support applications would be expected to produce financial benefits in the ‘do better’ and ‘stop’ columns, since they address well-known tasks and activities.

At the opposite end, strategic investment should produce new ways of doing business, the benefits of which are more difficult to quantify and express financially in advance as discussed earlier, as well as the range of ‘do better’ benefits, which may often be expressed financially.

Key operational applications should produce a range of benefits in the ‘do better’ column, some in the ‘stop’ and even a few in the ‘new’ column.” – Ward & Peppard (2002)

The rest of the business case is more traditional and involves detailed costing, high level risk assessment and feasibility studies and how to avoid risks or solve them.

Stage 3 Executing the Benefits Plan: The next stage is to execute the plan created in stage 1 and stage 2. The main process in this part is to monitor how the plan is moving along its intended course. It is beneficial to add measures and/or interim targets to keep it on track (Ward & Peppard, 2002). In this stage it is also possible to discover new benefits, remove old ones or update them, as well as discovering and handling new risks. If intended benefits are no longer feasible, actions need to be taken in regards to if the project should be continued, revised or dropped. This makes the executing stage into an iterating evaluation of the project.

Stage 4 Reviewing and Evaluating Results: When the project has been implemented, a follow-up/review process is initiated. The purpose of this stage is to:

- Maximize the benefits of the particular investment
- Learn how to improve benefits delivery from future investments

The review should involve all the key stakeholders and focus on what has been achieved, what has not been achieved and why (Ward & Peppard, 2002). The evaluation should hopefully deliver the intended purpose as mentioned above, however, if this stage is seen as a negative part of the project, honesty and organizational learning may be disputed or blocked.

Stage 5 Potential for Further Benefits: *“Further benefits often become apparent only when the system has been running for some time and the associated business changes have been made”* (Ward & Peppard, 2002). It is therefore important that the review stage is thorough and that the benefit process iterates back to a creative process similar to stage 1 to further the organization even further.

4 Empirical Study

In this chapter, the reader will be provided with the description of the organizations that we contacted. All organizational and personal names have been censured for the sake of the participants' integrity.

4.1 Company A

Is an IT company which has offices in around 15 countries, many of whom are located in Europe. The company employs roughly 20,000 people and offers both management and IT related solutions. When in contact with this company we focused on their Microsoft Dynamic AX department.

4.2 Company B

Is a Nordic IT Company offering a vast array of services relating to computing. The company houses roughly 10,000 employees and has a customer base of around 14,000, from both private and public services. When in contact with this company we focused on their Microsoft Dynamic AX department and project management.

4.3 Company C

Is an IT and management company based in Sweden with offices in five other countries in Europe. They employ roughly 1,100 employees. When in contact with this company we focused on their Microsoft Dynamic AX department.

4.4 Company D

Is an IT and management consulting company employing around 14,000 employees in 34 countries. When in contact with this company we focused on their Microsoft Dynamic AX department.

5 Empirical Findings

In this chapter, the reader will be presented with the empirical findings of this thesis. The findings are presented in a summarizing tables corresponding to a specific question from the interview guide with a focus on important quotes and/or keywords. The summary of the interviews can be found in the appendix interview summary 1-6.

5.1 Interview Question 1

What is your current role at your organization, what tasks does this include and what are your work experience from this field?

Table 2 - Interview Question 1 Findings

A1	Role: Business consultant in the context of Microsoft Dynamic AX Worked with different ERP systems since 90's (SAP & Dynamic AX)
B1	Role: Business consultant & team leader for Microsoft Dynamic AX Mainly works with Microsoft Dynamic AX, but has experience as product manager and salesman
B2	Role: Team leader for Microsoft Dynamic AX & Jeeves Has experience from different ERP projects, but not hands-on from Microsoft Dynamic AX
B3	Role: Team leader for business consultants and sales representatives. Previous experience involves key account manager, application consultant and salesperson for ERP systems. Previously worked as team leader for Microsoft Dynamic AX team at company B
C1	Role: Currently works as a senior consultant within the field production and logistics with ERP system Microsoft Dynamic AX. Has previous experience from data migration and project leadership
D1	Role: Works primarily as a solutions architect and has done for the last years, focusing on Microsoft Dynamic AX and other common systems.

5.2 Interview Question 2

During ERP projects, do you or your company apply any project models/methods for support?

- a. If yes, is this a model/method you have developed yourself for preference sake or by the company?
- b. If yes, what is the goal of the model/method and how does it support the project?
- c. If no, why is there no model/method present and do you think there should be one?
- d. If no, could a model/method add support to the project?

Table 3 - Interview Question 2 Findings

A1	<p>Applies different models but not every model is ERP related. Models used are Microsoft Sure Step & SAP's ASAP</p> <p>A) Not developed in-house, preference and company sake</p> <p>B) Provides structure, pre-defined, most concern project management but on the downside there is not a lot of focus regarding the system itself. Although standard models, they are open for interpretation, making each project structure unique, removing the possibility for continuity. A1 usually apply agile methods, but the agile approach is adapted to ERP projects since they are too large. The lack of continuity also makes it hard to recycle experience.</p>
B1	<p>Is educated in and uses the PPS method, the in-house developed model and Microsoft Sure Step</p> <p>A) The models are used throughout the company and according to B1, PPS and Sure step are known by customers, which is beneficial.</p> <p>B) The benefits of the models according to B1 are structure and limitation (scope) the model also supports reporting structure and role/activity definitions. All models/methods are practically oriented.</p>
B2	<p>Uses different model/method for each project. Commonly uses PPS model, in-house model and Microsoft Sure step.</p> <p>A) PPS and Sure step is not developed in-house but is used throughout the company. The in-house model is used throughout the company.</p> <p>B) After an official course a binder is given to the participant of the PPS course and it offers information, which aids the consultant in terms of templates, structures, stages, identify activities etc. to avoid missing important steps. B2 regards the initial part to be the most important in the project and the models/methods supports that thoroughly and through the rest of the project as well.</p>
B3	<p>B3 Is using the same models as B1 and B2; PPS and their in-house model</p> <p>A) PPS is not developed in-house but is used by all employees with the task of being project manager/leader.</p> <p>B) Rich of content, which supports the practitioner and is well known to providers and client(s). Both practical and administrative support.</p>
C1	<p>Uses the PROPS model and Microsoft developed Sure step methodology during ERP projects focusing on Microsoft Dynamic AX. In different systems other models are applied. Also uses a tool similar to Microsoft Visio, or Visio itself, to highlight processes in AS-IS, POSSIBLE-TO BE and FINAL-TO BE.</p> <p>B) The most important the model(s) and/or method(s) bring is familiarity.</p>
D1	<p>Uses Microsoft developed sure step and company D's in-house method which was developed together with another company.</p> <p>A) The in-house model is applied by the whole company to distinguish them from competitors.</p> <p>B) The positive side of working with the in-house model is the correlation to services and products offered by the company, which means that it supports the daily tasks of the employees. Supports the practitioner administratively and practically and can be reduced to fit each project. Global uses enables familiarity as well.</p>

5.3 Interview Question 3

What milestones, if any, do you regard as the most important one during the early stages of the project?

- a. Are the milestones, if any, used for review and follow-up later on?

Table 4 - Interview Question 3 Findings

A1	Models/methods applied support the creation and monitoring of milestones. The deliverables are almost the same in the models, with stages for analyzing deliverables etc. The most important milestone is the pilot study, which includes the GAP analysis, to see how much configuration is needed and how does the client(s) processes look like. This creates the requirement specification list. The lists are reviewed during the length of the project to make sure the deliverable is according to agreement. All deliverables must be approved by both customer and vendor before continuing to the next stage.
B1	According to B1, the most important milestone is to do a thorough GAP analysis to prepare for an activity and requirement specification list(s). The lists are review during the length of the project to make sure the deliverable is according to agreement.
B2	The most important task is to define roles and activities that are supposed to be done in the project (similar to B1 specification lists) and to communicate this. These documents are then produced to the client(s) whom is tasked with approving them. In general B2 perceives milestones are vital for keeping a project on track and to structure the activities performed.
B3	Suggest three documents that are highly critical; a structured job estimation with a signed agreement of the undertaking, a structure project directive with a project plan and thirdly, a resource plan. Together these documents offer a greater structure to the project. A) B3 further suggests that a steering committee is appointed and that a reporting structure follows to monitor past, current and future activities and results. The follow-up and/or monitoring can focus on administrative parts or operational.
C1	Concerning questions three, interviewee C1 stated that creating and signing off a GAP analysis is the most important milestone as it focuses on the deliverables of the project. C1 further suggests that the GAP analysis can be used in pre-selection of system(s) to speed up the process. C1 also suggests that this process should be done together with the client since another important aspect of a project is to educate the client(s), a notion that is supported by collaborated work. Due to this funnel approach (teach super user, super user teach end-user) a connection to what was previously stated in GAP is always checked back towards.
D1	According to D1, the most important milestone is the stage where the creation of scope and planning documents are done. During those activities the specifications of the project are drawn. Milestones in general are very good in keeping the project on track later on while the initial agreements have been reached. A) In terms of follow-up they look back to the milestones to see what was agreed upon. According to D1, discussions regarding this issue often arise, and a clear and structured project plan and scope that the client(s) has signed of is critical. Tools such as Microsoft Sure step is used together with MS project to monitor the process of the project. If new questions arise it is customary to use a change request log to keep track of suggestions/requirements and even evaluate them through business cases if they are deemed to be large enough.

5.4 Interview Question 4

How do you and your company work with value realization and benefit management (goals, problems, risks) during ERP projects?

a) Is there any follow-up process during or after the project to this?

Table 5 - Interview Question 4 Findings

A1	<p>This is generally a challenge and quite often the process of value realization does not work for them. This is often due to fuzzy goals, submitted by the client(s) that cannot be measured or is only measureable after 6-12 months. A1 believes that in 9 out of 10 times, goals specified beforehand are forgotten after a month. The problem of sticking to the goals is due to the involvement of a lot of people with different agendas and inertia to change. This makes change management vital.</p> <p>A) A regular follow-up is virtually non-existing as people are satisfied enough with the project being completed. In A1's opinion it would be beneficial to the industry if this was performed better, but in reality it is very hard to do as a lot of responsibility is owned by the client(s)</p>
B1	<p>This is linked closely to the TO-BE situation. The customer communicates their goal(s) and the consultant(s) tie this to the TO-BE situation. Beyond the TO-BE delivery, it is up to the client(s) to realize the value and to follow the consultant(s) suggestions.</p> <p>A) In terms to follow-up the goals, B1 believes that the consultant(s) should be involved in measuring the success of the project and review if the intended outcomes were reached or not. If benefits can be identified after the project, then the project is deemed to be a good project. Follow-up decisions should be done from the start.</p>
B2	<p>A risk analysis is done together with the client(s) and then monitored during meetings and good communication. According to B2, it is the sales person who is responsible for the overall business goals, which are broken into project goals that the project manager is responsible for. The project goals are represented as fixed states e.g. an installed ERP system.</p> <p>A) During meetings, status reports keep the project on track. This is seen as a continuous process. However, difficulties such as hidden agendas might appear, at those situations it is important to trust the agreed upon goals from the start.</p>
B3	<p>The in-house model is applied to deal with this matter in the early stages of the project. This is linked to the AS-IS and TO-BE situation. This can pre-define choices for ERP systems. A model called PENG is also used to calculate tangible and intangible benefits; business consultants and client(s) use PENG during workshops. However, the time they would like to spend on benefit management is seldom reached and in the end the client(s) is the sole responsible for value realization according to B3</p>
C1	<p>There are specified goals to the project, but the follow-up process is less than satisfactory and often the main purpose is to switch system. Often the client(s) is not interested in this or the project is too complex. This might work in smaller projects or in parts that can be isolated and measured, such as in change management projects dealing with lead-time.</p>
D1	<p>Due to unique conditions for every project, D1 find it wise to adopt different strategies for this issue for each project. Preferably a business case is used to link requirements to demands (goals). It is further important to have a red thread from start to finish achieving the demands, and this is done through smaller deliveries and follow-up.</p>

5.5 Interview Question 5

Do you think value realization and benefit management can be offered as a service/guarantee during ERP projects?

- a. Could there exist problems with promising/marketing such an approach?
- b. How could one solve, if any, problems with this approach and what is the most important step in increasing value realized during large scale IT projects such as ERP?

Table 6 - Interview Question 5 Findings

A1	A large problem for this approach is the uncertainty of the client(s) fulfilling their part, resulting in no value realization. Business cases are often pitched during sales processes, which allow for measuring of goals, but are unattractive due to the price. Due to budget constraints, projects are striped, which A1 perceive to be a risk to the delivery itself. Fortunately A1 is experiencing a new wave of younger executives who understands IT better, opening up for longer and deeper contracts.
B1	Believes it is possible, but there is a long way to go. The analysis would have to be very thorough with a thorough follow-up linked to it. This puts high demand on all parties involved and demands consensus and structure in all project parts. However, this could cause the cost for the project to skyrocket, which will make it hard to justify. The client(s) would also be in charge of realizing the value and listening to advices given. B1 views change management to be an important stepping-stone towards this and agree upon that a certain change model would be preferable.
B2	To ensure this, B2 believes there is a need for higher costs and deeper responsibilities, but might still be difficult. Since goals are hard to measure exactly it will be hard to fully realize them, making it hard to guarantee. B2 believed that Key Performance Indicators could support the identification and measuring process. Follow-up processes exist, but it is hard to know what to follow-up since the project is complex. The identity of the goals may also change depending on the project size.
B3	B3 suggests that a total responsibility and through the use of methods (PPS and in-house model) they can work with the client(s) in targeting benefits, but the client(s) is the one with a sole responsibility in realizing them. Working according to PPS allows for continuous follow-up during the project. To guarantee this, deeper commitment and full project undertaking is necessary.
C1	It is company policy to share risks with the client(s) if measureable goals can be defined, but from experience, C1 has never been involved in such a project. C1 sites lack of client(s) commitment to value orientation, the complex nature of ERP systems and the old waterfall model as reasons for this. If goals are supposed to be managed, a thorough GAP analysis is needed and a process perspective applied.
D1	D1 believes it is very uncommon, as ERP systems do not deliver any value by default. To reach value it is important to connect to the operative part of the organization D1 acknowledge that tools and methods exists for this, but they are often used by sales personnel on rare occasions. Furthermore D1 perceive this to be impractical due to the complexity of the project, but could be adapted to areas such as lead-time optimization. To obtain value, D1 believes it is more important to focus on the time issue, making ERP projects shorter while maintaining their integrity. Furthermore, D1 agrees to the notion that change management and project management/leadership could be key issues dealing with this and cited the waterfall model as one of the obstacles in modern ERP projects, suggesting a more agile approach.

5.6 Interview Question 6

In your own opinion, could there be problems or possibilities with integrating more theoretical ideas/models/methods into the world of business?

Table 7 - Interview Question 6 Findings

A1	Views the addition of theoretical methods/models as a bit troublesome as they are generally too academic. If new ones are created, they have to be practical and specific.
B1	It might be difficult to see the value of theoretical elements, but they could be beneficial and supportive as well. In the beginning new models/methods may be hard to apply and require experience so they have to be practical/tailor able and simple to understand.
B2	Since theories are quite academic it is important that they are easy to communicate and share with the client(s) to reach a consensus on how it is used. If this is achieved it could be beneficial.
B3	Due to different interests of each participant, it is hard to know their preferences, thus making it hard to add new models that are unknown or unfamiliar. Furthermore the model/method cannot encumber the participants more than necessary, opting for a simple model/method if any. The model/method should preferably be scalable, similar to PPS and should be easy to communicate and agree upon, making sure people know why and how to do their assigned activities.
C1	C1 see a lack of space for more models/methods/theories in the project due to the budget and time frame. It is therefore important to focus on substantial tasks. In other disciplines such as business process re-engineering (BPR) this could be more applicable. Meaning if new models/methods are to be added, they cannot encumber participants, but should rather make it easier for them.
D1	It is important that such tools are connected to the project in a practical fashion or they might be hard to bring into the project. There is also a need for a consensus regarding the model/method for it to be practical, or misunderstandings can create problems down the road.

5.7 Extra Question.

We asked each interviewee concluding extra questions to make sure that we understood certain answers that we had received earlier or we asked additional questions to make sure we did not leave out any particular subject. This table represents a summary of each interviewee's final complimentary question(s). Worth noting is the fact that each interviewee was asked different questions due to different themes appearing or being highlighted during each interview.

Table 8 – Extra Question

A1 – Regarding the PENG model	A1 like the model but find it a bit narrow as it is copyrighted, meaning any configuration removes the right to call it a PENG analysis
B1 – Regarding benefit management and models	Do not understand how the calculations are done, but a standardized model would be practical and beneficial. If a lot of people used the same tool it would make projects easier to join and create a common structure. It still needs to be flexible though. Balancing can be very difficult.
B2 – Regarding CSFs for a project	B2 advocates the importance of having the same people through the whole project and letting the project take its time. This should create more respect, commitment and a solid project structure, making it more possible to reach intended results.
B3 – Regarding change management and how they implement it.	They often coach the client(s) with this during AS-IS and TO-BE stages. Hopefully the client(s) will listen and realize it. Change management could be applied together with an ERP project, but it would at the same time be viewed as a separate project due to its complex challenges and sheer size.
C1 – Regarding the most important during a ERP project and role definition	<p>It is important that the projects are fast, if it takes too long time, it will make the project more complex. It is important to keep it simple.</p> <p>It is furthermore important to have a good project model to structure and guide the project and make sure those roles and responsibly are defined and agreed upon.</p>
D1 – Regarding methods for identifying project goals connected to benefits	It depends on the project aim, business cases can be used, but it depends on the context and what type of goals you would like to identify/measure. There is no one size fits all solution to this.

6 Analysis

In this chapter, the reader will be presented with the analysis of the secondary and primary data gathered for this thesis. The analysis follows the narrative summary analysis and will be supplemented with conceptual models of identified domains. The analysis will be divided into each research question separately.

Throughout the course of the research project we have sought to obtain a deeper knowledge regarding the domain of value realization during ERP projects. This process has involved review of secondary literature, primary data gathering and interpretation and finally an analysis to combine the data. What we discovered from the literature was the presence of three topics governing over our targeted research domain, those topics are; *Change Management, Benefit Management* and *ERP & CSFs*. In the analysis of our first research question(s);

RQ1 – What components/criteria are important to realize value in ERP Projects?

- What kind of processes/activities are of key importance for completing an ERP project, according to providers of ERP solutions?
- What kind of benefit(s)/risk(s) could be associated with planned projects?

In the analysis of research question 1 we used the eight steps of change suggested by Kotter (1996) (see *chapter 3.1.1 Change Leadership* for more information) as a guide, discussing one step at the time in numeric order. This allowed for a story flow following the theoretical approach of a project advocating change in an organizational context. In conjunction with these steps suggested by Kotter (1996) we addressed connecting theories from *chapter 3.2 ERP Systems & CSFs* and *chapter 3.3 Benefit Management* as well as adding our empirical findings into the analysis of Value Realization in ERP projects. Although the eight steps are suggested as a backbone to a change project by Kotter (1996) certain parts are less applicable than others. In our second research question:

RQ2 - How can value realization management be offered as a concept/service from a solutions provider's point of view?

- What kind of opportunities/challenges which such an approach?
- What is necessary for such a concept/service to become plausible?

We have used the research question structure as well as the interview guide as a guiding structure. In addition secondary literature has been included into the analysis to highlight similarities, differences or to raise questions. During the analysis for the second research question the focus was to discuss interview question four, five and six as those were deemed most strongly linked to the second research question, in our opinion.

6.1 Analysis of Research Question I

6.1.1 Step I Establish a Sense of Urgency

In the sub-domain of change management, we have discovered that there is a general impression from the author(s) that we have included that one of the most important components of a change initiative is the change leader. Arguing that a leader is the key, rather than the manager, Kotter (1996) suggests that while a manager can keep the control, a leader is important in moving the change forward. Gill (2003) further suggests that poor management may be one reason for project failure, suggesting a need for a leader to support the management in coping with change inertia. During the interviews we obtained similar information, suggesting that it is important to cope with *change inertia* and *establish a sense of urgency* in the client(s). Although Kotter (1996) suggests that *establishing a sense of urgency* is the initial step, this is rarely the case according to our interviewees. In response to our third interview question regarding milestones, the consensus from all interviewees were that the singular most important first step was the process of establishing a document similar to the common GAP analysis. The product from this process is often unique and different approaches are adopted by each interviewee, but overall the deliverables aim to structure the project requirements according to the client(s) demand(s).

In terms of change management theories reviewed, this might not be a preferable course of action. According to Kotter (1996), there will be a challenge of convincing stakeholders to adapt to the suggested change further down the road, a challenge which might be lesser if it is dealt with before the fear of change strikes, a challenge already identified by our interviewees. Interviewee **A1** suggests that change inertia is one of the problems with realizing value during ERP projects and Interviewee **C1** agrees that it is important to work with the client(s) so that they do not get stuck in their old ways, but **C1** also mentions that the change management situation involved in the project is outside the scope of their deliverables. It is further discussed by **A1**, **B2** and **B3** how hidden agendas and individual political interests can create unnecessary risks during the project and that it is important to avoid those. **B2** and **B3** suggest that the use of administrative templates, discussions inside the project group and continuous meetings and status reports that support the discovery and/or reduction of this risk. **B3** also share the approach of workshop to discover potential risks associated with stakeholders:

“To avoid the problem we try to work in workshops and get everybody onboard and to discover who might voice their opinion later on. However, the risk analysis is not very common to be done with a client(s)” – **B3**

It is discussed by Ward and Peppard (2002) that during the process of identifying benefits for an investment, a stakeholder analysis could be performed. Although **B3** suggests that such an approach is uncommon, Ward and Peppard (2002) suggest that by understanding the benefit flow related to identified stakeholder groups, the task of empowering and involving stakeholders become more structured. In a theoretical sense this relates to what Kotter (1996) suggests as a preferable step in the change process (to involve and empower participants).

During the discussion regarding interview question 5 – guaranteeing value realization, Interviewee **D1** suggested that tools for identifying value was often used by sales personnel, a activity associated with the underlying motivation for an ERP project and **B2** and **B3** stated that the sales representative was in charge of delivering the structured job estimation, often including goal(s) and benefit analysis. During those instances a similar phenomenon as the

step Kotter (1996) suggest is initiated, creating the underlying benefits opting for an ERP project, but the communication of these findings could in most cases be improved, opting for a common understanding of the change need and benefits. The approach of delegating this job to sales representatives and/or sales personnel furthermore shifts the responsibility of establishing and urgency, from being initiated by the sales representative to the project participant, creating a sub-optimal approach for creating an understanding of why the client(s) may need to change and/or participate in the project on a deeper level. An approach towards benefit awareness, similar to the answer received in the above mentioned interviews, is presented by Ward and Peppard (2002) who advocates the use of a business case presentation, which could lead to the initial project appraisal, applying a **why, what** and **how** analysis to integrate the benefit focus into the project, an approach **D1** suggests is a common approach during their ERP projects.

Furthermore, it is suggested by **B2** that a CSF for an ERP project is having the same people through the whole project, which would support the task of removing change inertia, rather than dividing it, or as **B2** put it:

"...This could create more respect, commitment and a solid project structure, making it more possible to reach intended results"

6.1.2 Step 2 Creating the Guiding Coalition

After establishing a sense of urgency, Kotter (1996) suggests that it is important to establish support for the change in the form of a guiding coalition. From our own interpretations of the interviews, this is rarely a problem during ERP projects, as opposed to the identified change inertia problem, due to the fact that the ERP project is often initiated by a high level management team. **B3** goes as far as saying that without a proper steering committee (guiding coalition) it is not a project, but a minor activity/task. In the case of an ERP project, Umble et.al (2003) defines the committee as critical for project delivery and Gill (2003) regards the commitment to be a key issue regarding the effectiveness of strategies and William W. George suggests that:

"Employees can adapt to major strategic shifts as long as the company's mission and values remain the same".

In relation to Kotter (1996) and his suggestions that effective change leadership involves leading by example, further suggests that top level commitment through a steering committee is vital for coping with change inertia in the lower company levels. It is suggested by the interviewees that if a project leader exists at the client(s) site as well to make the communication with the steering committee more controlled, allowing the consulting project group to only have one channel for communication on a daily-basis rather than the whole steering committee. **B3** suggests that without the client(s) leader it will still be possible to conduct the project, but it will require more work in terms of communication.

It is furthermore suggested by the interviewees **A1, B3, D1** that a change log is kept after the initial sign off in case future requests/ideas and/or goals are identified later in the project. In those instances it is further suggested that important objects added to the log is reviewed by the steering committee to measure the need for adding them to the project and/or changing the project according to them. It has been suggested by the interviewees mentioned that this is both due to keep the project structure intact, but also to ensure that the consultants can get paid for additional work load, as discussions regarding what has been done are common when payment is due.

6.1.3 Step 3 Developing a Vision and a Strategy

With the guiding coalition (steering committee) established, Kotter (1996) suggests the need for developing a vision and a strategy for the change. This is further supported by Covey (1992), suggesting that the strategy is the road map of the project and the vision the compass. From the interviews we obtained data suggesting that this was the part of the ERP project which was critical for delivering a solution consistent with the client(s) demand(s). As mentioned before the GAP analysis is regarded as vital according to our interviewees, but the GAP document is often pre-dated by another process, the establishment of AS-IS and TO-BE maps. The interviewees suggest that this process allows for a common understanding of the existing situation at the client(s) site and a common understanding of where they would like to be in the future. It is a common approach according to the interviewees that the planning and structuring of a project is done together with the client(s) to create a consensus on the tasks undertaken and what their intentions are. This is an approach supported by Kotter (1996) whom suggests that empowerment of stakeholders are critical and Bubenko et.al (2001) further suggests that by involving the stakeholders in the modeling of the vision/strategy a larger commitment can be obtained and misunderstandings between consultant and stakeholder avoided, which according to **B1** is not uncommon. With the creation of the AS-IS and TO-Be situation, the GAP analysis can be made, which supports the important process of project scope.

According to Ward & Peppard (2002), during a business process analysis, which is often included during the AS-IS and TO-BE workshops, the goal is to assess the effectiveness of core business processes that are supporting the business objective. This allows for an understanding of for example how a new system will fit into the organization in support of the business objectives. It is also suggested by Bubenko et.al (2001) that this is done through a workshop process creating a visual representation which can be communicated effectively. During the discussions of interview question 4 and 5, it was noted by the interviewees that it is during this stage of the project that a lot of focus is put toward the benefit and value of the project. According to **B1**, the participants from the client(s) side during the TO-BE process express the goal(s) to the consultant(s) and discuss their feasibility to the project. **B3** support **B1**'s statement and elaborates on the fact that the TO-BE situation is often linked to the initial study done by the sales representative, as in the case of **Company B**. However, the time spent on benefit management is according to **B3** is seldom as long as they should be and **B1** adds the importance for ERP consultant(s) to be involved in the process of measuring goal(s) to evaluate if benefits have been reached or not.

Compared to **Company B**, interviewee **D1** of **Company D** explains their focus on business cases, an approach according to **D1** which suits their projects and supports their task of providing a red thread through the project. However, according to **D1**, business cases can sometimes be troublesome for minor evaluations due to their size and complexity, a notion supported by **A1** from **Company A**. Similar to **Company D**, **Company A** focus on business cases, but according to **A1**, they have a hard time selling a business case and value realization activities in general.

As mentioned earlier, the interviewees still regards this to be one of the most important steps in the project, making sure that there is a consensus regarding the undertaking and often a modeling workshop is applied, as proposed by above mentioned theories. According to the interviewees these documents are later used for monitoring and controlling the project, steering it towards the targeted goal(s).

B3 suggests that the creation of three documents; a structured job estimation along with a signed agreement of the undertaking, a structured project directive containing a project plan and thirdly a resource plan, creates the foundations of the project, and that future changes or suggestions can be added to a change request log to be discussed in the project group together with the steering committee. The other interviewees describe similar approaches to the structuring of the project, and evaluating activities, such as **D1** suggesting the above mentioned business case approach.

After the structure and the scope (goal(s)) are agreed upon, it was also recommended to use a change log if deviations from the initial scope arose, as mentioned in *step 2 – Creating a guiding coalition*. The change log supports the consultant(s) in tracking suggestions and changes done after the project was initially undertaken and the interviewees suggests that the change log makes it practical for adding to their activities and still getting paid and to stay on target as the change requests are evaluated before undertaken or dismissed. In comparison with the suggested approach by Ward and Peppard (2002), the real-world approach is more direct, where-as the theoretical approach is more linear; identify, plan, execute, review and further benefits in the future. Ward and Peppard (2002) suggests that the benefit management approach advocates the immersion of the benefit process into the investment project, in our case and ERP project, rather than keeping them apart. From our interviews we can see that the three concept areas are not easily immersed, as the main focus is still the ERP itself, causing change management and (if present) benefit management to be considered as parallel projects.

Compared to Kotter (1996) this could potentially disrupt the strategy and vision step as there will be more focus on the strategy to implement intended ERP solution rather than the more theoretically oriented step-by-step approach. However, from the interviews we could see a mix from purely practical steps towards more administrative checkpoints advocating structure, such as milestones.

During this stage of the ERP project, it is in fact, according to our interviewees, common practice to establish minor milestones/deliverables to create further structure to the project. According to **B2** this allows for delegating responsibility for planned activities and **B3** adds the possibility for follow-up meetings to make sure the project is corresponding desirably:

*“...when we create the project plan we also create a time plan and an activity plan, and that is done with consultant(s) and the client(s). Then we work every week against these documents and during meetings we evaluate how we are performing against what we aimed to do to see if we are on time or if we are late in a particular part and what cannot be done before we are done with previous tasks. Continuous follow-up at the meetings and sticking to the documents and templates and keeping the up to date is a tool we use in projects.” – **B3***

To make sure that the end-product is meeting the requirements, **A1** conform to not moving forward in the project before even the minor milestones are signed off by involved parties. **C1** suggests that during this process, pre-assumptions regarding the system choice can also be made by analyzing the requirement lists, which could speed up the process if the project, a notion that **D1** perceive to be one of the value enablers. In the end there exist an overall method/model applied by each of the interviewees, titled the project method/model, which governs the whole project and associated activities. It is often the case that a well-known model, such as PPS in the case of **B1**, **B2** & **B3**, or Microsoft Sure Step as in the case of **A1**, **B1**, **B2**, **B3**, **C1** and **D1**, is applied as the client(s) are familiar with



them and then an in-house model is applied to distinguish or highlight one provider from another, such as in the case of **Company B**, **Company C** and **Company D**.

During the interviews we asked what was the most important contribution from the method(s)/model(s) applied and the answers were quite similar:

- A1 – Structures the project plan and to create a way of working that fits (guidance)
- B1 – Structure, project limitation and decision making. Also enables template documents
- B2 – Structure and support to the practitioner and enables template documents
- B3 – Rich content of templates and provides practical guidelines
- C1 – Familiarity and supports processes in the project, such as AS-IS & TO-BE analysis
- D1 – Familiarity and correlation to products/services which provides support for the user

All in all the response regarding the method(s)/model(s) allows us as researchers to define requirements for the creation of our own artifact at the end of the analysis. The problem(s) and challenge(s) will be discussed further in the analysis section dealing with our second research question.

6.1.4 Step 4 Communicating the Change Vision

The fourth step according to Kotter (1996) involves communicating the created vision and associated strategic plan. According to our interviewees the communication is a continuous challenge that is of key importance when working in a project as complex as an ERP project. The communication challenge was often discussed in the context of milestones [**question 3 from our interview guide**] with our interviewees.

The need for effective communication is due to a number of reasons, one being the case that the client(s) do not understand what to include in the project, as suggested by **B1**. **B2** offers project structure as a valid reason for pursuing good communication as well as the need for project participants to fully understand their assigned activities. **B3** suggests that communication is important in an overall project leader situation, due to the fact that the project leader is responsible for having a continuous discussion with the client(s) regarding the project as a whole. Furthermore, **B3** also suggests a need for checking if the client(s) understand the project model before it is applied, and regrets that this is not always done, which causes misunderstandings later on, proving the need for good communication right from the start. It is however, a common approach to use follow-up to activities and milestones through weekly meetings and/or status reports according to our interviewees.

It is additionally important, according to the interviewees, that the project method(s)/model(s) are flexible, understandable and easy to communicate, which offers a challenge for us as researchers in creating our own artifact. This provides a challenge for us as researchers in creating our own model, making it important for our internal, and to a lesser extent, our external validity.

In the context of benefit management, Ward and Peppard (2002) insist on the criticality of ensuring consensus in benefit activity and ownership, much similar to the activity responsibility described by the interviewees. It is additionally suggested by Motiwalla and Thompson (2009) that communication is vital during the implementation process due to the complex nature of the ERP system. With every modification, the system becomes more complex, and if the process of change requests and change logs, as suggested by our interviewees, are not put to use the project risks can certainly become greater. Therefore, it is im-

plied that the analysis process is done correctly and good communication is practiced to minimize the need for configuration (Motiwalla and Thompson, 2009).

In terms of implementation, **D1** suggests that the true value to be obtained from ERP projects derives from a speedy implementation, a notion much in line with Anderson et.al (2011) that suggests this as an approach towards minimizing the configurations, and thus also potential risks.

In the challenge of becoming quicker and having better interactions with the client(s), **A1** and **D1** advocate the use of agile approaches, although **A1** implies that an ERP project may be a bit too large for only using agile, as compared to the more traditional waterfall model. **D1** expresses the importance of consensus as even more important if the work is supposed to be faster and involve smaller delivery:

“I have been a part of projects working more agile during the development, but at the same time, the client(s) expect the process to follow the waterfall method. They think that they have participated in a lot of workshops involving requirement specifications, but in agile methods you always do this and deliver prototypes before the end product are finished. When these two perspectives collide at the end of the project it creates confusion. To avoid this it is important to have consensus and work stricter after the project method, but sometimes one forgets to run through the method with the client(s) and assumes they understand it.”

D1 elaborates further that this can become even more vital if parts of the project are outsourced due to cost savings:

“Another thing is that we work quite a bit with outsourcing, offshoring, to India to reduce costs. And the problem/challenge remains the same, it is extremely hard to describe processes if the same method is not applied and in the case of agile development it demands that everyone is attending the workshop together. It may be cheaper to let someone in India do it, but do you get what you wanted? And did it really become cheaper in the end?”

6.1.5 Step 5 Empowering Broad-based Action

The fifth step in Kotter's eight steps for change (1996) is the process of empowering broad based action. According to Kotter, it is important to support the involvement of identified stakeholders and Ward & Peppard (2002) offers a suggestion to a stakeholder analysis method (see appendix 3: Figure 9 – Stakeholder analysis from Benjamin and Levison) which can be applied to evaluate what kind of possibilities/challenges a particular stakeholder can add to the project. In terms of ERP projects it came to our attention that a general stakeholder analysis was seldom applied, although interviewees from **Company B** confirmed that their project model does indeed include such a template. It was however; often the case that stakeholders got involved into the project due to assigned activities/responsibilities as mentioned before, or through education, which according to **C1** is a more practical approach as theoretical steps increases the workload significantly. By educating the super-user and then monitoring the super-user educating the end-user, **C1** believes that one need to have a good red thread throughout the project in terms of communication and structure. Education is also considered to be an important factor by Umble et.al (2003) as user understanding and acceptance is essential.

However, although the client(s) and associated stakeholders are empowered to participate, there is a general agreement among the interviewees that in terms of ERP projects, the empowerment should also include further responsibilities. This will be further elaborated upon in the part dealing with the analysis of benefit management and value realization, but in

regards to change management, the lack of deeper commitment in step five undermines the process of step eight – anchoring new approaches in the culture. In the theories by Kotter (1996), Ward and Peppard (2002) suggests towards ownership of certain tasks to motivate and integrate participants into the change, but according to the interviews, such as **B3**, that it is not enough, as the client(s) who has the responsibility may not act on the advice given and since the client(s) carry sole responsibility, the provider cannot affect this to 100%.

During the action step it is suggested by Umble et.al (2003) that there is a combination of three factors, associated with step 5, leading to a successful project. One being excellent project management, a factor which according to Gill (2003) might bring failure to the project if not present. The importance of the project manager/leader is further advocated by **B2** and **B3** as they describe the administrative and operative role a project manager/leader can be responsible for. The second factor is organizational change management, which according to Kotter (1996) is essential. However, although Umble et.al (2003) and Kotter (1996) stress the need for this, the interviewees suggested that although there was a need for getting the customer out of the old processes and into potential new ones, change management as an activity was largely a different project. The third factor is the need for a great implementation team, a factor shared by the interviewees as they all regarded the understanding and commitment to assigned tasks as generated from experience and method(s)/model(s) of high importance for completing the project.

6.1.6 Step 6 Generating Short-term wins

Step six in Kotter's approach towards change (1996) is to generate short-term wins. Kotter argue that the use of short-term wins can re-ignite motivation and create a sense of accomplishment in the change project, giving the stakeholders and extra boost. In regards to short-term wins, we interpreted the use of milestones being applied instead, letting the short-term wins taking the form of practical improvements affecting the stakeholders i.e. after the GAP analysis was done the consultant(s) and the client(s) could start with configuring, adopting, testing and learning the new system together as previously discussed regarding milestones and project structure. However, a difference with what Kotter (1996) suggests and what we got from our interviews was the need for completion of milestones before the next activity could start. Although both mark the end of a previous activity, Kotter advocates a theoretically more glamorous approach as opposed to the practical heads on task-by-task approach suggested by interviewees such as **A1** and **B3**.

6.1.7 Step 7 Consolidating Gains & Producing more Change

The seventh step regards consolidating gains and producing more change. This step as suggested by Kotter (1996) is also present in other method(s) such as Ward and Peppard's (2002) guidelines for benefit management, where they also propose a iterative process for continuous change, much like incremental change as discussed in the introduction chapter. However, according to our interviews, the consolidation done in the projects are mostly follow-ups and status reports regarding assigned tasks rather than gains obtained, and as stated by **B1**, the project cost would skyrocket if such an approach was adopted, even if it could increase the overall quality of the delivery. **C1** elaborates on this problem by stating that ERP projects creates a lot of work, which means that we need to minimize the excess work and focus on practical tasks that are tangible. A common notion between the interviewees is the relief once the ERP project has been approved and signed off by the client(s) and **A1** argues that in 9 out of 10 projects, the goals stated in the beginning are forgotten after 1 month, making it even harder for a consolidation of gains, thus increasing the workload further. However, in theory the interviewees agree that follow-ups regarding gains

(benefit management) would benefit the project quality and the client(s) although the current situation in the industry makes it largely unfeasible. Although the interviewees regarded this as a rather impossible and complex task, there were somewhat of a consensus in regards to the fact that it was in theory a very important process. In reflection to what could be done to improve this process the interviewees all had their own suggestions:

- **A1** – Become better following-up on goals, obtain deeper commitment from both parties and create a unanimous view regarding the importance of IT for the client organization and expand the project budget.
- **B1** – Link goals to the TO-BE analysis more thoroughly, increase the demand on involved parties and work more with change management to get the client into listening to advices and to actively realizing value.
- **B2** – There is a need for higher costs and deeper responsibilities, despite the difficulty. Could possibly use KPIs for support of measuring processes and become better at knowing what to follow-up upon and then target that.
- **B3** – Work with AS-IS, TO-BE and calculating benefit method(s) to support the project and pre-choice of ERP solution for a faster project. Working in workshops. Through deeper responsibility support the client(s) in targeting and reaching benefit(s), even if the client(s) have the final responsibility for value realization in the end. Still, follow-ups and deeper commitment is a starting point.
- **C1** – Although company policy to share the risk with the client, there is a need for measurable goals to be created, otherwise it do not work and due to the complex nature of the ERP project, even deeper and more thorough GAP analyses are required. The follow-up process needs to become improved as well, but the client(s) is rarely interested in this might be more suited for change management projects.
- **D1** – Suggests the need for adopting different approaches each time, or at least not exactly the same, as each project is unique and there is no one solution fits all problems. **D1** suggests business cases and smaller deliveries and better follow-ups as well. To reach a guarantee of value realization it is necessary to connect to the operational part of the organization, and those tools are often used by sales representatives rather than the ERP consultant. Other than that it is important to work with agile methods rather than waterfall model.

6.1.8 Step 8 Anchoring New Approaches in the Culture

The final step is to anchor the change in the organization. Kotter (1996) describe this as a process of making sure that one does not revert back to the old ways after the project is completed. To ensure this one could use different such as benefit plans or complete removal of previous business rules. During ERP projects, the interviewees have expressed their concern for this problem as well. According to interviewees **B1**, **B2** and **B3** one of the biggest challenges involves responsibility and commitment from parties involved in the project as the consultant(s) cannot force change upon the client(s) as the client(s) owns the project and has to be the one controlling the anchoring (or realization) of the project when the project is implemented. **D1** offers the opinion that for it to become possible, the client(s) has to understand **why** and **how**, or it won't happen. **Company C** is approaching this through deeper risk sharing, but **C1** has so far not experienced it personally after twelve years working at **Company C**.

These problems relate to the suggestions presented during step 7 and how the interviewees would like to improve or change the current situation regarding goals and value realization. Although there are solutions and suggestions from the consultant(s), a general impression is still that although they can work, guide and submit suggestions to the client(s), it is still the client(s) responsibility to realize the sought out value of the ERP project. After the conclusion we will discuss our personal interpretation regarding this research problem in the context of existing methods, tools, previous knowledge and more.

6.2 Analysis of Research Question 2

6.2.1 Working with value realization and benefit management

Providing value realization management or benefit management is a difficult and costly task. This is the general consensus among the interviewees we have seen. There are a number of factors that must be taken into consideration and huge requirements are put on both the consultant(s) and the customer(s). **Company A** is struggling with realizing value as it is and **A1** believes that it does not really work for them. The reason for this according to **A1** is that the goals are too fuzzy and cannot be measured; they might only be measurable after 6-12 months. Ward and Peppard (2002) state that identified benefit with a project that is to be implemented needs a measure to define how the delivery of it will be assessed. As we see it, this could be highly challenging if the goals to be fulfilled cannot be measured until after 6-12 months. The assessment of the goals will be left out.

“9 out of 10 times, the goals specified beforehand are forgotten after a month” – A1

The reason that the goals are forgotten is according to **A1** a result of the project shifting focus when top management, who set the goals, hands over the project to the employees. **A1** believes that the employees have their own goals with the project which is causing the shifting of focus. Umble et al. (2003) has identified top management commitment as a Critical Success Factor (CSF), which from our point of view means that someone from top management should be involved in the project to ensure that the focus is kept.

B1 states that the goals are very much connected to the TO-BE situation and that it is the customer that has to communicate what their goals with the project are. The consultants should then link this together when they model the TO-BE situation. **B3** concurs with that the AS-IS situation and TO-BE situation is linked to this. **B1** also points out that the customer is also responsible for fulfilling the goals set beforehand and modeled in the TO-BE situation:

“Sometimes they are not working in the way that was first intended, which results in that the value has not been realized.” – B1

B2 states that it is not the project manager who is responsible for fulfilling the overall business goals. The salesperson is the one responsible for the overall business goals; the project manager is only responsible for the project goals, which are derived from the overall business goals. These project goals are represented as fixed states e.g. an installed ERP system. **B3** believes that the in-house model they use in **Company B** handles this matter in the early stages of the project. A tool focusing on tangible and intangible benefits is often applied by **Company B** during workshops with the client(s), according to **B3**. **B3** continues by saying that **Company B** wants to spend time on benefit management but this is not always possible, but that at the end of the day it is the client(s) who is solely responsible for realizing the value, which is the same stance that consultant **B1** voiced above. The impression we got when we conducted our interviews was that the consultants see a need for better measurement of the goals and they are interested in working with benefit management but that it is often the client(s) who is a little more reserved. This might be for financial reasons or because they lack the knowledge concerning it. **B1** states that they must be able to see the benefit with it before they decided to adopt it.

D1 believes that since every project is different with unique conditions it is wisest to adopt different strategies depending on the issues for each project.

B2 believes that since the goals are often very difficult to measure exactly it will be very difficult to fully realize them, which makes it problematic to offer a guarantee on that value will be achieved. According to Umble et al. (2003) performance measures that assess the impact of the new system must be carefully constructed to make sure that they really indicate how the system is performing. Umble et al. (2003) have identified focused performance measures as a CSF in an ERP project. The performance measures should be included from the beginning of the project and that the organization should be prepared for a small decline in productivity straight after the implementation is completed (Umble et al., 2003). This is where a clash between theory and practice might occur, which has been the case in many projects according to our interview subjects. The importance of focused performance measures is stated in the theory and the consultant agencies are aware of this but there is a problem in identifying appropriate performance measures for the ERP systems. From the interviews we consider the assumption that the reason behind this could be that the specified goals of the project derived from the customer(s) are either not measurable or not relatable to any appropriate measures.

6.2.2 Following up and reviewing an ERP project

Ward and Peppard (2002) propose a set of *best practice guidelines* for benefit management that consists of five stages, where the fourth stage advocates that a follow-up/review should be initiated when a project implementation has been carried out. Although following up the project after it has been finished is not as easy as it would seem. **A1** states that:

“...a regular follow up is not carried out in most cases since everyone is so satisfied with that the project has been finished” – **A1**

Consultant **C1** states that there are specified goals with a project but is not very impressed with how following up the project has been working:

“...the follow-up process is less than satisfactory, and often the main purpose is nothing more than to switch system.” – **C1**

C1 continues by saying that benefit management is not very common:

“...I rarely see the process of benefit analysis and/or value realization.” – **C1**

According to **B3 Company B** attempts to follow up their projects:

“...we are trying to do it, especially during ERP implementations since I started to work here, but we have decided that we have to improve this process nowadays. And currently we are doing two projects where this is a part of the main focus.” – **B3**

Consultant **B2** concurs with **B3** in that they try to follow up the ERP projects but that this is not a simple task.

“Follow-up processes exist, but it is hard to know what to follow-up since the project is complex. The identity of the goals may also change depending on the project size.” – **B2**

According to **B3** time should be set aside during a project to work with benefit management but it is seldom done:

“...after such a project [ERP] most people involved are so happy that it is up and running and that the project has been approved that you let it go and start with the next project. Usually we say that 20% of a project devoted to our initial model should be devoted to benefit management. This means that the client(s) should spend 20% of the projects time on benefit management in a continuous iterative evaluating process to

optimize the contribution from the ERP project, but there are few that do this, even if the organization would benefit from it since it is not the actual system that matter, but how it is put to use.” – B3

B3 believes structural reasons are to blame:

“...it might be because after the project is done, the structure created for the project is disbanded and people go back to their regular work, leaving the responsibility to single individuals rather than the organization as a whole.” – B3

In terms to follow up the goals, **B1** believes that they as consultant(s) should be involved in measuring the success of the project and review if the intended outcomes were reached or not. If the benefits can be identified after the project has ended, then the project is deemed to be a good project. These follow-up decisions should be made in the beginning of the project.

According to Ward and Peppard (2002) the follow-up/review stage of their *best practice guidelines* is an important task to carry out in order to identify new benefits that can be obtained. This creates a problem since there are difficulties in carrying out the follow-up/review according to many of our interviewed consultants. It might therefore be problem in identifying further benefits that could be obtained in the future.

6.2.3 Offering value realization as a service/guarantee

There will be many hindlers that must be overcome if value realization is to be offered as a service/guarantee in a project. This is the general opinion among our interviewed consultants. **B1** believes that this is not an impossible task but that there is still a very long way to go before this can be done. It would put higher demands on all of the parties involved; it would require that a consensus in the project is reached and that every part in the project is structured to the limit. **B2** furthers this discussion by saying that this would require a much higher price in the end and the different responsibilities must be deeper from both the customer(s) and the consultant(s). **B1** agrees to this and goes even further than **B2** by saying that the price could skyrocket in a worst case scenario, which will make it difficult to justify why the customer(s) should purchase a value realization or benefit management service/guarantee.

Consultant **C1** states that there is a company policy stating that the risks should be shared with the customers if there can be any measurable goals defined but he/she has never been involved in such a project. **C1** continues by stating that:

“...the client(s) must see the project as an opportunity and be willing to share the risk with us, but out of 10 years working in this field, I would suggest that 90% of all projects are following the old model” - C1 [referring to working in a waterfall process]

D1 believes that since an ERP system does not deliver any value by default that it is very uncommon to promise value for the customer(s) at the moment.

“...there are too many factors beyond the control of the ERP project team to ensure any guarantee.” – D1

For value realization to be offered as a service, **B1** believes that the analysis of the current problems would have to be very expensive and an extensive analysis to follow up what has been achieved would also be necessary. **B1** continues by saying:

“I believe this is difficult. This puts very high demands on both the customer and the consultants and also demands a very clear definition on how the goals should be achieved. If it is to work exactly in one way and

to clearly set limits as well. The scale of the project will increase fast with hundreds of activities that need to be analyzed.” – B1

According to **B3** for value realization and benefit management to be realized as a service/guarantee during ERP projects, there must be deeper commitment from the customer(s) and they as consultants must be given more control over the project.

Consultant **A1** believes that there is a big problem with offering a guarantee to the customer(s) that value will be obtained since there is an uncertainty if the customer(s) will fulfill their part of the agreement in realizing the value. **B3** agrees to this and is of the opinion that it is the responsibility of the customer(s) to take that last step and realize the value. **C1** also agrees with consultant **A1** saying there must also be commitment from the customer(s) to realizing the intended value.

One way of realizing value in the current way of working, according to consultant **B3**, is through the use of models (PPS and their own in-house model) along with a requirement for total responsibility from their customer(s). **D1** agrees to that the tools and methods for realizing value already exist but on the rare occasions when they are used only sales personnel use them. Consultant **D1** believes that to obtain value it is more important focus on the time it takes to implement an ERP system, there is a need to shorten them but at the same time maintaining their integrity. Consultant **D1** continues by suggesting a more agile approach, which is faster than the traditional waterfall approach (Avison & Fitzgerald, 2006), in order to speed up the development of the ERP system. According to Cohen et al. (2003) user requirements are sometimes changed and new requirements arise during a project, an agile method is then a very efficient approach. According to Highsmith et al. (2000) agile methods are adopted to deliver quickly, change quickly, and change often. **A1** also believes that an agile method is beneficial but pointed out that it is not possible to use it throughout an entire ERP project since the ERP system is too large for that.

According to consultant **A1** **company A** tried to offer business cases, where quantifiable goals were set and measured, to their customers. Their customer(s) showed interest in the business cases until they were told how much it would cost. **A1** has experienced that the customer(s) are very keen to keep the price down as much as possible. The reason for this, according to **A1**, is that IT projects have a reputation of always exceeding their budget and this is why the customer(s) do not want anything other than what they believe are the core functions/activities. **A1** states that this is very risky and it also puts more pressure on the consultant(s), they have to rely more on previous knowledge and experiences from prior projects. **A1** perceive the customers' view on the budget of an IT project as very optimistic in most cases but he/she has started noticing that the understanding for IT and IT projects is increasing with the trend of younger people becoming executives. Several of the interviewees have mentioned that the financial issue would be an upcoming problem with having value realization and benefit management as a service or guarantee. Since money is an important factor in any project we believe that this could be one major obstacle that must be overcome in order for value realization and benefit management to be offered as a service or guarantee.

6.2.4 Adopting new models/methods to solve the problems

Integrating new models, methods, or ideas based on theory could maybe be one answer to solving the problem with offering value realization and benefit management as a service or guarantee. Some of our interviewees could see the benefit with this. From **B1's** experience there has not been a real road map for how to realize the intended value and could there-

fore see the benefit with having a model or method that could be followed. It could serve as a guide or to maybe improve current models or methods. **B1** says that if you take a quick glance at a theoretical model you might disagree but that by investigating it further might be favorable:

“There might be parts that are useful and relevant. Sometimes the model might be right; we might be the ones doing wrong. Therefore it might be favorable to look into the models a little bit more.” **B1**

B2 believes that there are gaps that must be bridged before any theoretical model can be integrated into the current ways of working.

“Since theories are quite academic it is important that they are easy to communicate and share with the client(s) to reach a consensus on how it is used. If this is achieved it could be beneficial.” – **B2**

C1 points out that for new models to be adopted they must outperform the current way of working.

“...if new models/methods are to be added, they cannot encumber participants, but should rather make it easier for them.” – **C1**

B3 agrees with this saying that the new model/method must be simple and not encumber the participants more than necessary. **B3** continues by saying:

“The model/method should preferably be scalable, similar to PPS and should be easy to communicate and agree upon, making sure people know why and how to do their assigned activities.” – **B3**

Every consultant that we interviewed believed that it would be difficult to adopt any theoretical models/methods. Even though there might be some benefits, consultant **B1** still believes that it will be very difficult to adopt new theoretical models or methods since the people that will work with them must see the benefit from such a method/model. Else they will start questioning the reason for why they are supposed to use it. According to Consultant **A1** the theoretical models and methods are viewed as too academic by most the people in the industry and are therefore a bit troublesome. Many if not every consultant that we interviewed shared this opinion with **A1**.

C1 believes that there is not more room for yet another model/method in a project with budget and time constraints. It is therefore important to focus on substantial tasks. **A1** emphasizes that if new models or methods are adopted they have to be practical and specific, which is something **D1** agrees with by stating that for new models/methods to be adopted they must be connected to the project in a practical fashion. **D1** continues by saying there is a need for consensus regarding the model/method for it to be practical, misunderstandings can result in problems later in the project. **B3** is of the opinion that adopting a new model is difficult since the many participants must accept it.

“Due to different interests of each participant, it is hard to know their preferences, thus making it hard to add new models that are unknown or unfamiliar.” – **B3**

By analyzing the interview results we believe that there could be many hinders in adopting a new theoretical model or method. It might not be very advantageous to try to overcome these obstacles since it may require many resources in order to make it feasible. It would maybe be more beneficial to work with the current models and methods, and if needed and possible try to incorporate previous experiences into them in order to improve them further.



6.3 Summary of Analysis: RQ1 & RQ2

To summarize and more closely show the connection to our research question, we added this sub-chapter.

During an ERP project there are many components that can play an important part whether the project will reach its intended purpose or not. According to our interviews there are some challenges that might occur during a project. Specified by interviewee **A1**, change inertia is one problem that will hinder the realization of value during an ERP project. Interviewee **C1** supports **A1's** statement, by saying that it is important to work together with the client(s) to ensure that they do not get stuck in their old ways of working. However, **C1** also points out that change management during a project is outside of the scope of what they are supposed to deliver. Consultant **B2** states that a CSF for an ERP project is having the same people through the whole project, which would support the task of removing change inertia, rather than dividing it. Hidden agendas and political interests are also some things that can create unnecessary risks according to **A1**, **B2** and **B3**. **B2** and **B3** recommend that the use of administrative templates, discussions in the project group and continuous meetings and status reports since this can minimize the risks.

Ward and Peppard (2002) argue for the use of a business case presentation, which could lead to the initial project appraisal, applying a *why*, *what* and *how* analysis to integrate the benefit focus into the project. **D1** confirms that this is a common approach during ERP projects in **company D**.

According to our interviewees the GAP analysis is a crucial task but the GAP document is often pre-dated by another process, the establishment of AS-IS and TO-BE maps. With the creation of the AS-IS and TO-BE situation, the GAP analysis can be made, which supports the scope of the project. According to **C1** creating and signing off a GAP analysis is the most important milestone as it focuses on the deliverables of the project. **B1** continues by saying that the participants from the client(s) side during the TO-BE modeling should express the goal(s) to the consultant(s) and discuss the feasibility of the project. **B3** agrees with **B1** and elaborates on the fact that the TO-BE situation is often linked to the initial study done by the sales representative from **Company B**. However, the time spent on benefit management is according to **B3** rarely as long as it should be. According to **B1** the ERP consultant(s) play an important role and should be involved in the process of measuring goal(s) to evaluate if benefits have been reached or not.

All interviewees have identified the need for an effective communication as a key factor in ERP projects since client(s) might sometimes not understand what is included in the project according to **B1**. According to **B2** an effective communication will yield structure in a project and ensure that the participants stay on the same page to avoid misunderstandings. **B3** pinpoint that communication is important in an overall project leader situation, due to the fact that the project leader is responsible for having a continuous discussion with the client(s) regarding the project as a whole, which supports the claim from Umble et al. (2003) to have excellent project management. **B3** also mentions the importance of checking with the client(s) if everything is understood to minimize misunderstandings later in the project

B2 believes that a very important task is to define roles and activities that are supposed to be done in the project and to communicate this. The documents concerning these are then communicated to the client(s) for approval. **D1** shares this opinion by saying that the most important milestone is the stage where the creation of scope and planning documents are

done. During those activities the specifications of the project are drawn. In general **B2** and **D1** perceive milestones as vital for keeping a project on track and to structure the activities performed.

Commitment from the client(s) is also something that our interviewees identified as an important aspect during an ERP project in order to realize the intended value. **A1** presents a problem where the client(s) will not fulfill their part in realizing the value. **B3** supports **A1** by saying that it is the client's responsibility to take last step to realize the value. **C1** states that there must be commitment from the client(s) for value to be realized. **B1** also believes that the client(s) have the responsibility in the end but states that they sometimes do not work as intended. Ward and Peppard (2002) propose a stage in their *best practice guidelines* where you follow-up/review the project and advocate that this is an important task to carry out in order to identify new benefits that can be obtained. The interviewees state that they are aware of this but find it difficult to carry out this in practice since there are many factors that hinders this.

The interviewees also find it problematic to offer value realization as service/guarantee. They identify a number of hindering factors even though there might be something to gain from it. **B1** believes that it can be done but that there are many obstacles that need to be addressed. **B2** predicts that the price will be noticeably higher if such guarantees are to be made. The financial aspect is something that many of our interviewees have touched upon, **A1** goes as far to say that customers' view on the budget of an IT project as very optimistic in most cases.

Again commitment from the client(s) plays an important role if value realization is to be offered as a service/guarantee. As stated earlier by **A1, B1, B3 and C1** the customers must be willing to commit and take responsibility in order to realize value. **B3** also believes that they as consultant need more control throughout the entire the project if they were to offer value realization as a service/guarantee.

Umble et al. (2003) have identified performance measures as an important factor for the success of a project. This is somewhat problematic due to the difficulty in finding appropriate measures. According to **B2** goals are often very difficult to measure exactly which will make very difficult to fully realize them in the end. This makes it challenging to offer a guarantee on that value will be achieved after an ERP project. **A1** supports the claim that goals might prove problematic to measure and that sometimes they can only be measured 6-12 months after the project has ended. **D1** concludes in saying that projects are different and have unique conditions, which makes it more suitable to pick different strategies depending on the project that is at hand.

Adopting new models or methods for the purpose of delivering value is something that most interviewees found unfavorable. Many of our interviewees believed the models to be too academic for people to adopt them. **B1** reflect on this saying that since the models/methods can be very academic people do not perceive that they will not add any value and question the use of them. **C1** does not believe that there is enough space in a project for more models/methods due to restricting budgets and time frames. **B3** points out that it will be difficult to add something that is unfamiliar to the participants. If a model or method is to be added the interviewees emphasize that it needs to be simple and practical. **D1** states that it is important that such a tool is linked to the project in a practical way and that there is a consensus regarding it to ensure that there are no misunderstandings later on in the project. This is a viewpoint that is commonly shared by the other interviewees as well.

7 Toolbox Artifact

In this chapter, the authors of this thesis present the artifact created as a result of this thesis. The artifact chapter contains a description of the artifact, the artifact itself and a critical discussion regarding the artifact.

The artifact that we created as a result from our research process can be described through the analogy of a toolbox. The toolbox used for this illustration contains three different levels, where level 1 is the broadest, containing the standard equipment, level two containing the specialized tools and level three the bits and pieces to customize your special tools, much like how a different bits (heads) can customize your screwdriver. The toolbox is our artifact created from the empirical and theoretical findings discussed in the previous parts of the analysis chapter, taking into considerations the outcomes from research question one and research question two. The analysis regarding question one created a collection of important components for realizing value during an ERP project, making up the components of our model, while the analysis regarding research question two allowed us to review important characteristics for the artifact. Important components for realizing value in ERP projects discovered can be divided into the tables below (level two and three are combined due to reasons that will be explained in the description of each level) and after the description of each level we have summarized important characteristics into a table as well.

Table 9 - Project Model Containing an overall directive & structure

Project Model Containing an overall directive & structure	
Structure & Project Goal/Risk Definition	Steering Committee & Commitment
Demand & Requirement Specification (Technical & Organizational)	Practical Usability
Familiarity/Consensus	Communication Channels
Role/Activity Definition	Follow-up & Status Reporting
Empowerment & Mutual Commitment	Administrative Template(s)

Table 10 - Inhouse model(s) for change management/benefit management

In-house model for change management	In-house model for benefit management
Tool for change(s)	Tool for benefit(s)
Tool for communication	Tool for communication
Tool for empowerment	Tool for empowerment
Tool for anchoring the change(s)	Tool for value realization
Extra slot – Every Project is Unique –	Extra slot – Every Project is Unique –

Level 1: Advocates the use of a well-known project model, such as those encountered during the research e.g. Microsoft Sure Step, PPS and/or PROPS. The benefit of using such a model is the standard approach used, covering the vital parts of an ERP project focusing on delivering a system solution. According to the interviewees they are often well-known by the client(s) before-hand, opting for a quicker learning curve. However, there is seldom a one-size fits all solution, as suggested by our interviewees, which is why we need level 2 and 3 as well.

Level 2: While level 1 offers structure and support for the project and participants, we have found it beneficial to include more company specific model(s), such as those in-house models we have discovered (Company B and Company D). However, the focus on change management and/or benefit management is inadequate in our opinion. Therefore we suggests that an in-house model is created to incorporate important elements of those two concepts as well. We understand that those are generally not included in the focus due to the complexity of ERP projects, however, the interviewees has noted that to work with value realization, it might be beneficial to add them into the project whenever possible.

Level 3: Although a selected approach towards change management and benefit management should have been selected in our opinion, we found it beneficial to add a tool level to increase the flexibility level in the whole model. Each tool would then structure its relevant area, e.g. communication, in the process of obtaining value from ERP projects.

Table 11 - Characteristic suggestions regarding the artifact

<p>Flexibility/configurable: There was a high demand by the interviewees that the artifact, if any, was to be created, it had to be flexible and configurable due to the unique nature of every ERP project. Due to this demand we decided to create a artifact for the artifact i.e. a toolbox. This allows for flexibility and configurability while the artifact suggests what kind of models/methods/tools can be applied and should preferably be included.</p>
<p>Transferable: As mentioned previously regarding flexibility, the toolbox also allows for transferability, where similar situations may require previously used models/methods/tools. This allows the user to include both new and old components into the artifact, and still check to see if a certain part has been covered or overlooked.</p>
<p>Easy to communicate: During the interviews it became apparent that communication of models/methods/tools could sometimes be a challenge. We therefore decided not to add yet another project model into the mix, as that would add little benefit for neither the field of research or to practitioners. Instead we made a holistic artifact incorporating suggestions why certain aspects could be included. This lets the practitioner to use our artifact to convince a client(s) why e.g. a specific tool should be used.</p>
<p>Easy to understand: Similar to the need to communicate the model/method/tool, we also discovered a need for quick learning. This was the second reason for creating a toolbox artifact. With the holistic artifact, a practitioner can visually explain why certain activities are important during a project or why a certain activity should be included.</p>
<p>Guiding and practical: In the end it was also important that the artifact was applicable in a real-world situation and that it could be used to guide the practitioner towards realizing value from the ERP project. We therefore analyzed our empirical findings together with our theoretical framework, finding important components, which we have included in the artifact.</p>

7.1 Toolbox Artifact

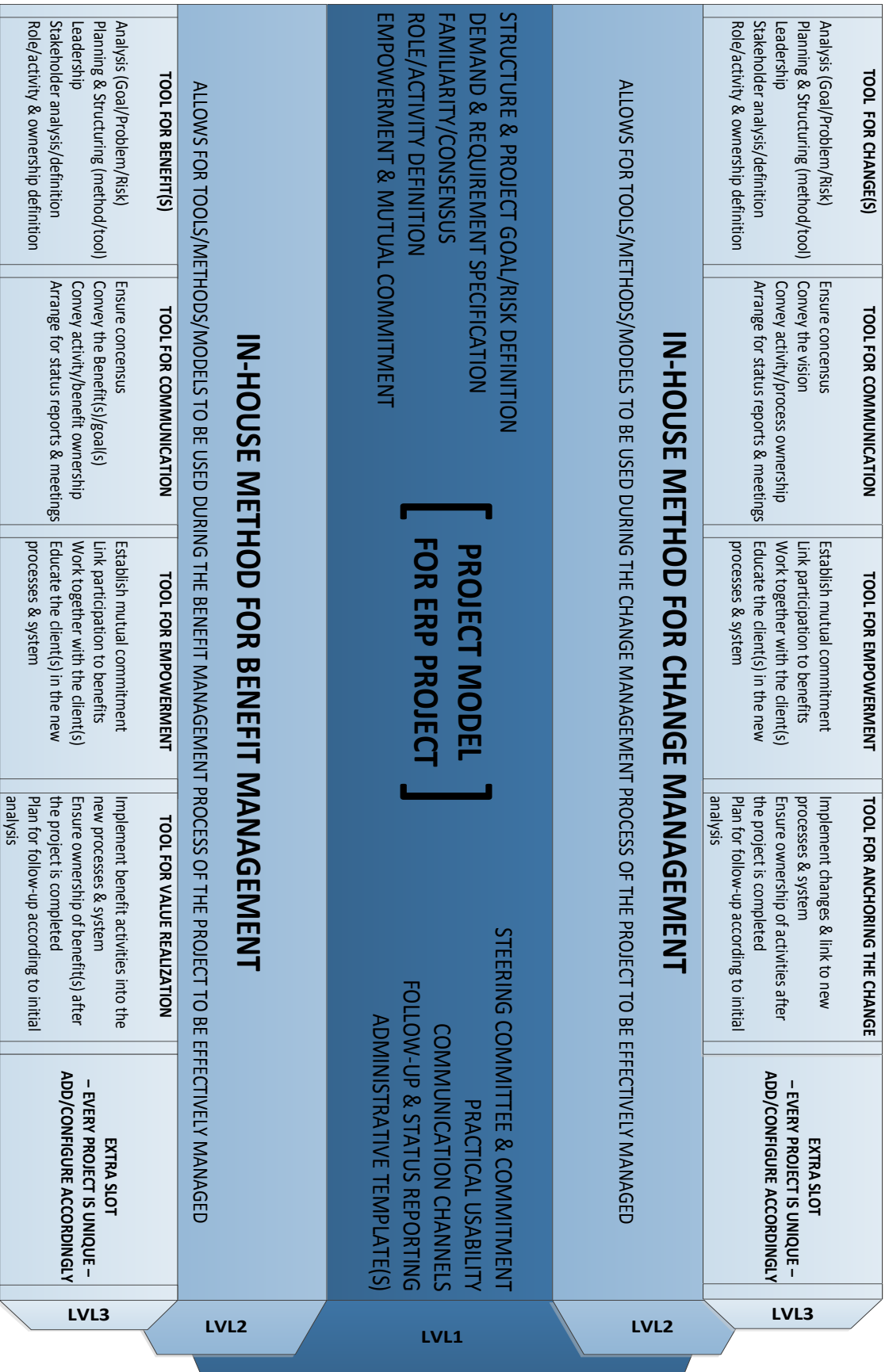


Figure 8 - Toolbox Artifact

7.2 Critical Assessment of the Toolbox Model

As discussed in our method chapter dealing with design science validity and how we have applied behavioral science and design science, the creation process defines the validity. We identified *Step 3 – Design evaluation*, *Step 4 – Research contributions* and *Step 5 – Research rigor* as the major challenges and threats to our artifact's validity. The artifact was evaluated in the context of theories presented in our theoretical framework of reference chapter and against the empirical findings presented in our empirical findings chapter (the longer interview summaries in the appendix was also used). This allowed us to evaluate the artifact from an internal point of view, including or disregarding components found during the research and analysis process. The external validity and transferability limits the strength our artifact has, but some measures have been taken into account regarding that as well. The characteristics obtained from the interviews have allowed us to design an artifact that is more general and abstract, rather than creating a specific one. We understand that ERP projects are unique and that there is no one solution fits all. However, we have used this knowledge and taken one step further back from the problem, focusing on understanding the problem domain and how we can structure the artifact. This allowed us to create an artifact working as a framework for existing frameworks (models/methods/tools) i.e. a toolbox.

The toolbox allows for configurability, adding a sense of transferability to it, thus creating a certain amount of external validity. However, since this artifact has not been tested or evaluated by practitioners, we cannot go beyond a modest sense of external validity. The internal validity could also be evaluated by future studies and interviews from consultants to see if the consensus regarding the problem remains intact if more people were included into the research. What we can say for now is that within the problem domain specified (research delimitation) and the knowledge obtained (empirical study), the artifact hold true.

In terms of research contribution we have successfully, in our own opinion and to our best knowledge, contributed with a artifact previously not existing within the field of business informatics, and more specifically, ERP projects and value realization. The research contribution is highly theoretical due to the abstract nature of the artifact and theoretical application during the analysis and creation. The contribution allows for potential discussion regarding how theoretical models/methods/tools can be used together during an ERP project and for value realization, a discussion that could further our own research contribution.

8 Conclusion

In this chapter, the authors of this thesis conclude their scientific findings and how the research questions have been answered.

RQ1 - What components/criteria are important to realize value in ERP projects?

- What kind of processes/activities are of key importance for completing an ERP project, according to providers of ERP solutions?
- What kind of benefit(s)/risk(s) could be associated with an ERP project?

As we have seen, an ERP project can be a difficult task with many risks and obstacles that need to be overcome. There are some key components/activities that need to be included in an ERP project to minimize the risks from increasing the costs. From the interviews we conducted we have derived a number of components/activities that were deemed significant for realizing value in a project:

Critical components

- Clear scope, structure, planning and thorough analysis of the ERP project
- Communication, consensus and follow-up/status report during the ERP project
- Clear role definition and activity/benefit ownership according to the ERP project
- Commitment and desire to change, overcome change inertia and political agendas
- Empower and involve stakeholders and end-users for a faster ERP implementation
- Anchoring changes and realize goal(s) due after the ERP project conclusion
- Review and follow-up the project, what was the outcome, and why, of the ERP project

RQ2 - How can value realization management be offered as a concept/service from a solutions provider's point of view?

- What kind of opportunities/challenges exists presently with guaranteeing value realization as a provider of an ERP solution?
- What is necessary for such a concept/service, in the context of ERP solutions, to become plausible for the provider

Furthermore, we have identified challenges and problems regarding offering value realization as a guarantee during ERP projects, as well as theoretical assumptions regarding what could be possible if certain aspects were to be different. These challenges/possibilities are provided from a provider's point of view and each suggestion can be either a challenge or a possibility depending on how you view them:

Challenges/Possibilities

- Deeper commitment from the client(s) and provider
- Client must understand that an ERP implementation is more than a technical solution
- Find practical measurements and areas suitable for measuring in the ERP project
- Increase the general budget view of IT investments, an ERP is not cheap nor a quick fix
- Add change management and benefit management into the ERP project practice
- Faster and easier ways to implement, configure and develop the ERP systems
- Educate the client(s) in change and benefit management for a greater appreciation of the complexity surrounding the ERP project and project drivers.

8.1 Theoretical Contributions

From the research process we discovered that the links suggested during the initial stages of the study between investigated topics; Change Management, Enterprise Resource Planning & CSFs and Benefit Management, are indeed present in previous research, but to our best knowledge, not described in an adequate way. Our main contribution in terms of theory refinement is therefore the process of highlighting those links. From the research process we discovered overlapping key components in each topic e.g. planning, follow-up or involving key people (stakeholders). In the analysis we pointed at these links and by creating an artifact we visualized the discovery in a model. In our opinion, our theoretical contributions can therefore be said to involve/affect:

- Adding a higher level model into the field of value realization in ERP projects
- Highlighting important components and their relationships within associating topics of study (*Change Management, Enterprise Resource Planning & CSFs and Benefit Management*)
- Suggesting towards future study to evaluate existing model(s) by practical approaches

8.2 Managerial Contributions

The results of this thesis those not only affect the scientific community in our opinion, but the industry investigated as well. During our research process we devoted ourselves to investigate value realization from a provider's point of view, allowing us to see challenges and possibilities from their side. This allowed for the creation of our artifact, an artifact which aims to support the difficult task of value realization in ERP projects.

The artifact is a little bit different from the models/methods used by our interviewees as it is not intended to be used as an everyday model supporting the daily activities. Instead we decided to deliver a model supporting the understanding of value realization and what could be included in an ERP project. This allows for configuration/flexibility and easy to use in clarifying why a certain activity is necessary. In our opinion, our managerial contributions can therefore be said to involve/affect:

- Structuring a complex challenge/possibility regarding the quality of ERP projects
- Highlighting important components and why/how they could be included
- An appreciation of the current situation of the problem with value realization
- Suggestions towards future refinements of existing models/methods in practice

9 Final Reflection and Future Research

In this chapter, the authors of this thesis discuss their findings in the context of the scientific community and the possibility of future research. The thesis work will also be discussed in terms of how the project went.

9.1 Reflections on the Research Project & Results

Our reflection regarding the research process is that there are many concepts that can be linked to the area of value realization in ERP projects, which is why we had to leave out some concepts that we deemed to be of interest. We realized that the research would be too large and time consuming if these parts were not left out. Several concepts were still investigated and included in our research in the early parts of this study. Areas that were investigated but not concluded topics *ERP roles* by Casanovas, Esteves & Pastor (2004) and Esteves and Pastor (2002), Role definition model/methods such as *RACI* by Experto-rogrammanagemen.com (2010) and Wikipedia (2012). In the end, a number of them were not deemed as applicable to our study when compared to the data that had been gathered, these concepts were discarded from this study or only mentioned shortly. The Balanced Scorecard (Kaplan & Norton, 1996) and Key Performance Indicators (Parmenter, 2007) were some of the concepts that were of interest to us but as stated above, our interviewees did not cover these areas which led us to discard them. There might be a need to cover these concepts in future research as the interviewees recognize a need for better measurements. This is discussed more in *chapter 9.2 Future Research*.

The delimitation also allowed us to focus on ERP systems of one particular kind, Microsoft Dynamic AX. However, this meant that similarities found and discussed in the beginning of the research process, such as implementation of SAP (Bancroft et.al, 1998) could not be included and a comparison between systems will have to be done in future research. The interviews were in our opinion very rewarding and we did not experience any problems in the processes regarding them. We were sometimes referred to an interviewee by another employee since he/she believed that this person to be more suitable to our research but this did not cause any problems for us. We also believe that more interviews would not have yielded different results since there was a clear consensus among the interviewees regarding what components/criteria there are to realize value in ERP projects and how value realization can be offered as a service/guarantee.

Conducting a quantitative study regarding the topic of value realization was something that we rejected after we realized that it would be a very difficult task. Important components, that we identified during our interviews, would have had to be included from the very beginning and included in a questionnaire to be sent to consultancy companies. The response rate would, in our belief, have been very low since many consultants have a very stressful job and need to fit in many activities during one day. It was through our connections that we were able to arrange our interviews. The result would also have been very shallow and deeper knowledge would most certainly not have been obtained.

Since the results from this research are derived from a provider's point of view there will be a few gaps where a client perspective is needed. The need for further research on the client perspective in this study is further discussed in the following *chapter 9.2 Future Research*. We believe that the lack of client perspective in this study will have some implications on the transferability of our results since we have delimit ourselves to ERP projects from a provider's point of view. The artifact created is therefore based on what our interviewees believe to be of importance in realizing value during and after an ERP project. It is unknown how further research regarding the client perspective will affect our artifact. We

believe that the changes of any will not be of vast significance since the interviewees, who work with ERP projects on a daily basis, have let us understand which parts are of importance in order to realize value in an ERP project.

9.2 Future Research

During the research process we adopted what is commonly known as a funnel approach. This allowed us to get a broad and deep understanding of the research domain as well as previously unexpected relations. During the initial study however, we discovered that we had to delimit ourselves to keep the research focused rather than broad. This meant that a lot of material discovered, learnt and interpreted was not included in the final version of the thesis. Instead we decided to discuss those parts in this chapter.

One part was our perspective, by selecting the point of view of the provider; we immediately eliminated the client's point of view. As discussed in our sections regarding threats to our validity and scientific contributions, this damages the transferability of our findings. It would therefore be a suggestion from us that a similar study, or even a testing process, of our results to be done in the future. This would allow for an evaluation of our results and open up for even further configuration of our suggested toolbox artifact. A research project with the perspective of the client(s) would allow for the scientific community and professional practitioners to understand how the problem gap could be bridged. What we have provided with our research is the foundations of one side of the gap; in the future it will be necessary to connect it with the client(s) point of view.

With a complete view of the problem domain, we believe that it would be quite possible to focus on the issue of value realization in ERP projects, as the lack of knowledge from the client(s) project participants has been one of the biggest challenges. We suspect that the lack of understanding from the client(s) side creates a workload for the provider that is cumbersome, causing them to discard it. If the client(s) could understand the importance, the process and what is demanded from them on a higher level, the provider(s) would not have to control processes and activities associated with value realization as firmly, allowing them to focus on getting the implementation in place faster, cheaper and more to the point of the client(s) demand.

When the overall problem is understood from both sides, a deeper analysis regarding what kind of tools could be involved in the process, and what should be demanded of them can be performed. During our study we investigated a number of tools that we discovered, such as; TQM, Six Sigma, Performance Measurements, PENG by Dahlgren et.al (2010), Balance Scorecard by Kaplan & Norton (1996) and Key Performance Indicators as well as tools discovered during interviews; PPS, PROPS, Microsoft Sure Step and in-house models from company B and D. Together they offered valuable insight into what is important to include and structure in a project, allowing us to focus on why components in them should be included and why non-present components should be added. In future studies it would be beneficial to test different models and evaluate them, trying to develop them further.

A suggestion made by the provider(s) interviewed was the need for better measurement practices and knowledge regarding how to isolate and measure. It was often the impression of the interviewees that the complex nature of the ERP project made the isolation impossible or impractical. We therefore suggest that studies focusing on measurements during ERP projects are pursued, or dusted off and re-introduced into the field if they already exist.



List of references

- van Aken, E, J,. (2004) Management Research Based on the Paradigm of Design Sciences: The quest for field-tested and grounded technological rules. *Journal of Management Studies*. 41:2 March 2004 0022-2380
- Avison, D. & Fitzgerald, G., (2006), *Information Systems Development*, McGraw-Hill Education 4th Edition
- Bancroft, N., Seip, H. & Spengel, A., (1998), *Implementing SAP R/3*, 2nd edition, Manning Publications
- Bruce, G. (2002) *Six Sigma for Managers* The McGraw-Hill Companies, In.
- Bubenko, Jr, J., Persson, A., & Stirna, J. (2001) D3: Appendix B – EKD User Guide *HyperKnowledge IST-2000-28401*, Hypermedia and Pattern Based Knowledge Management for Smart Organisations
- BusinessDictionary.com (2012) *Definition - Credibility Gap* Retrieved: 2012-03-12
From: <http://www.businessdictionary.com/definition/credibility-gap.html>
- Casanovas, J., Esteves, J. & Pastor, J., (2004), *Clarifying Leadership Roles in ERP Implementation Projects*, IE Working Paper, WP04-27, 11-10-2004
- Cohen, D., Costa, P. & Lindvall, M. (2003) *Agile Software Development*, DACS State-of-the-Art/Practice Report, Fraunhofer Center Maryland
- Covey, S. (1992) *Principle-centered Leadership*
Simon & Schuster, London
- Dahlgren, E, L., Lundgren, G. & Stigberg, L. (2010) PENG – Modellen
Ejlerlids Förlag, Stockholm
- Dean, W, J, Jr. & Evans, R, J. (2000) *Total Quality – Management, Organization and Strategy*
South-Western College Publishing 2nd Edition
- Dezdar, S,. & Sulaiman, A. (2009) *Successful enterprise resource planning implementation: taxonomy of critical factors*, , *Industrial Management & Data Systems*, Vol. 109 Iss: 8, pp.1037 - 1052
- Eisenbach, R., Watson, K. & Pillai, R. (1999) Transformational Leadership in the context of Organizational Change. *Journal of Organizational Change Management*, Vol. 12 No. 2, 1999, pp. 80-88 MCB University Press 0953-4814
- Esteves, J. M. & Pastor, J. A.,(2002), *Understanding the ERP Project Champion Role and its Criticality*, ECIS 2002, June 6-8, Gdansk, Poland
- Ghauri, P. & Grønhaug, K. (2010) *Research Methods in Business Studies* 4th Edition.
Pearson Education Limited – Edinburgh Gate
- Gill, R. (2003) Change management – or change leadership? *Journal of change management*; May 2003; 3, 4; ABI/INFORM Global
- Golafshani, N. (2003) *Understanding Reliability and Validity in Qualitative Research*, The Qualitative Report, Volume 8 Number 4 December 2003 p.597-607

List of references

- Hayes, J. (2007) *The theory and practice of change management 2nd Edition*
Palgrave Macmillan – Houndmills, Basingstoke, Hampshire
- Hevner, R. A., March, T. S., Park, J., & Ram, Sudha. (2004) Design Science in Information Systems Research *MIS Quarterly*, Vol. 28, No. 1 (Mar., 2004), pp. 75-105
- Highsmith, J., Orr, K. & Cockburn, A. (2000) Extreme Programming, *E-Business Application Delivery*, pp. 4-17, Feb. 2000
- Jacobs F, R. & Weston Jr, T. (2007) Enterprise resource planning (ERP) a brief history *Journal of Operations Management* Vol.25 (2007) p.357-363
- Kaplan, R., S. & Norton, D., P. (1996) *The Balanced Scorecard: Translating Strategy into Action*, Harvard Business School Press, Boston, Massachusetts
- Kotter, P. J., (1996), *Leading Change*, Harvard Business School Press, Boston Massachusetts
- Motiwalla, F, L. & Thompson, J. (2009) *Enterprise Systems for Management*
Pearson Prentice Hall – Edinburgh Gate
- Umble, J. E., Haft, R. R. & Umble, M. M. (2003) Enterprise resource planning: Implementation procedures and critical success factors, *European Journal of Operational Research*, Vol.146 (2003) p241-257
- Parmenter, D. (2007) *Key Performance Indicators: Developing, Implementing and Using Winning KPIs*, John Wiley & Sons, Inc., Hoboken, New Jersey
- Patton, M. Q. (2002) *Qualitative evaluation and research methods (3rd ed.)*, Thousand Oaks, CA: Sage Publications, Inc.
- Saunders. M, Thornhill. A and Lewis. P, (2007) *Research Methods for Business Students*, Fourth Edition, Pearson Education Limited – Edinburgh Gate
- Stenbacka, C. (2001) *Qualitative research requires quality concepts of its own*, *Management Decision*, 39(7), 551-555
- Ward, J. & Peppard, J. (2002) *Strategic Planning for Information Systems*
John Wiley & Sons, Ltd, The Atrium, Southern Gate, Chichester, West Sussex
- Weick, E, K., & Quinn, E, R., (1999) Organizational Change and Development *Annu. Rev. Psychol.* 1999. 50:361-86
- Wikipedia (20120) *Responsibility Assignment Matrix* Retrieved: 2012-03-28
From: http://en.wikipedia.org/wiki/Responsibility_assignment_matrix

Appendix I – Description of Research in Swe & Eng

Short description of research in Swedish

Målet med uppsatsen är att utvärdera hur man som konsult inom affärssystem-projekt jobbar med att sätta upp och nå effektmål vid större IT-projekt för att sedan koppla detta till uppföljning. För att studera detta söker vi kontakt med IT-konsult företag som jobbar med affärssystem, helst gärna AX, för att diskutera hur de första stegen i ett projekt: förstudie, mål, gap analys, ser ut. Från intervjuerna hoppas vi sen kunna skapa en praktisk modell för hur man kan öka nyttan vid affärssystem-projekt.

Short description of research translated into English

The purpose/goal of our thesis is to evaluate how consultants working with ERP projects work with identifying and realizing value during large scale IT projects and then follow-up on the result. To study this we are contacting companies delivering Business IT Solutions through consultants where the main focus are ERP solutions, preferably Microsoft Dynamic AX, to discuss how they work during the initial stages of a project: Analysis/Diagnosis, goal analysis, GAP analysis. From the interviews we hope to deduce/create a pragmatic model on how to increase value during ERP projects

Appendix 2 – Interview guide in Swedish

Swedish original

1. Vad är din roll hos ditt företag, vilka åtaganden har du och vad är din personliga erfarenhet utav yrket.
2. Vid ERP projekt, brukar du (ni) använda er utav projektmodeller/metoder för att underlätta arbetet?
 - a. Om ja, är det en egen modell/metod som du föredrar eller är den etablerad och använd utav företaget?
 - b. Om ja, vad försöker modellen/metoden fokusera på/ framhäva, vad tillför den till projektet
 - c. Om nej, varför används inte en modell/metod och tycker du att det borde finnas en modell/metod
 - d. Om nej, skulle en modell/metod kunna tillföra något till projekten
3. Vilka milstolpar, om det finns någon, anser du vara dom viktiga i de första faserna utav ett projekt?
 - a. Hur jobbar ni med att sätta upp dem och hålla dem?
4. Hur jobbar du(ni) med effekthemtagning/värdes identifiering (mål, problem, risker) inom ERP projekt?
 - a. Görs det någon återkoppling/uppföljning till detta under och efter projektet?
5. Tror du att effekthemtagning och värde/mål realisering kan erbjudas som en tjänst/garanti vid ERP projekt?
 - a. Kan det finnas hinder eller problem med att gå ut att lova/marknadsföra någonting sådant
 - b. Hur skulle man kunna lösa eventuella problem med detta och vad är det viktigaste för att öka värderealiseringsen vid stora IT projekt så som ERP?
6. Enligt din egna uppfattning, kan det finnas hinder eller möjligheter för att använda teoretiska idéer/modeller/metoder i arbetslivet?

Appendix 3 – Interview Guide in English

English translation of the interview guide

1. What is your current role at your organization, what tasks does this include and what are your work experience from this field?
2. During ERP projects, do you or your company apply any project models/methods for support?
 - a. If yes, is this a model/method you have developed yourself for preference sake or by the company?
 - b. If yes, what is the goal of the model/method and how does it support the project?
 - c. If no, why is there no model/method present and do you think there should be one?
 - d. If no, could a model/method add support to the project?
3. What milestones, if any, do you regard as the most important one during the early stages of the project?
 - a. Are the milestones, if any, used for review and follow-up later on?
4. How do you and your company work with value realization and benefit management (goals, problems, risks) during ERP projects
 - a. Is there any follow-up process during or after the project to this?
5. Do you think value realization and benefit management can be offered as a service/guarantee during ERP projects?
 - a. Could there exist problems with promising/marketing such an approach?
 - b. How could one solve, if any, problems with this approach and what is the most important step in increasing value realized during large scale IT projects such as ERP?
6. In your own opinion, could there be problems or possibilities with integrating more theoretical ideas/models/methods into the world of business?

Appendix 4 – Models in Benefit Management Chapter

STRATEGIC	HIGH POTENTIAL
BUSINESS INNOVATION AND CHANGE BUSINESS PROCESS RESTRUCTURING	(R&D PROJECTS)
BUSINESS EFFECTIVENESS BUSINESS RATIONALIZATION AND INTEGRATION	BUSINESS EFFECIENCY PROCESS ELIMINATION AND COST REDUCTION
KEY OPERATIONAL	SUPPORT

Figure 9 - Generic source of benefit for different applications

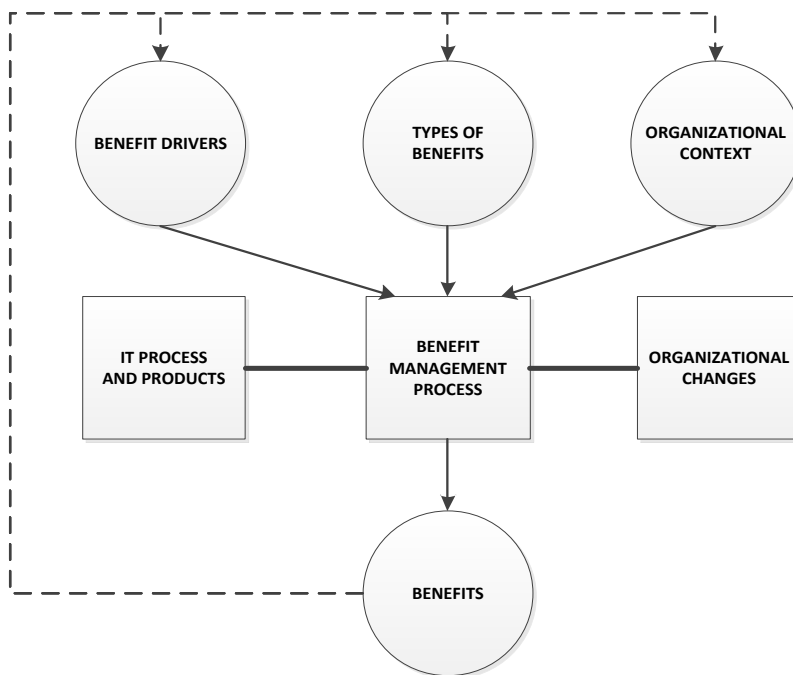


Figure 10 - Benefits Management Context

Appendix 5 – Part II

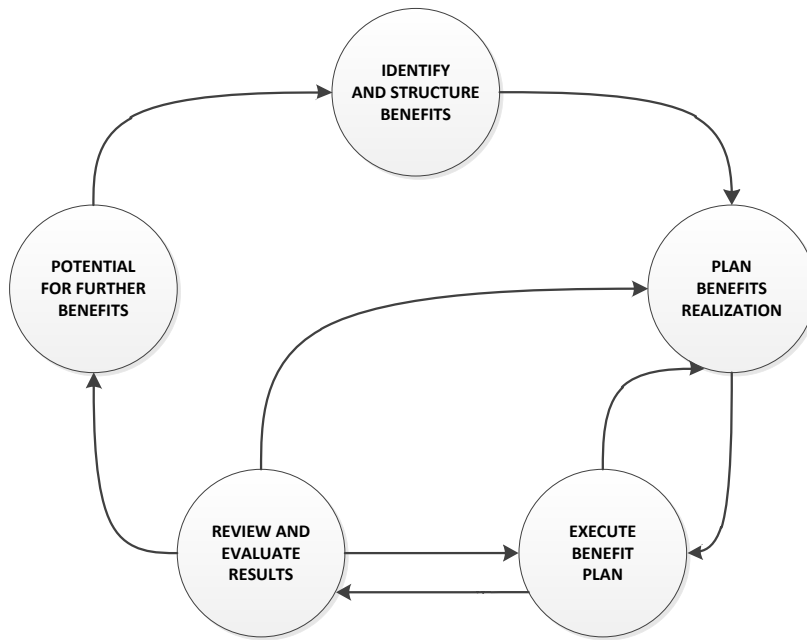


Figure 11 - A Process Model of Benefit Management

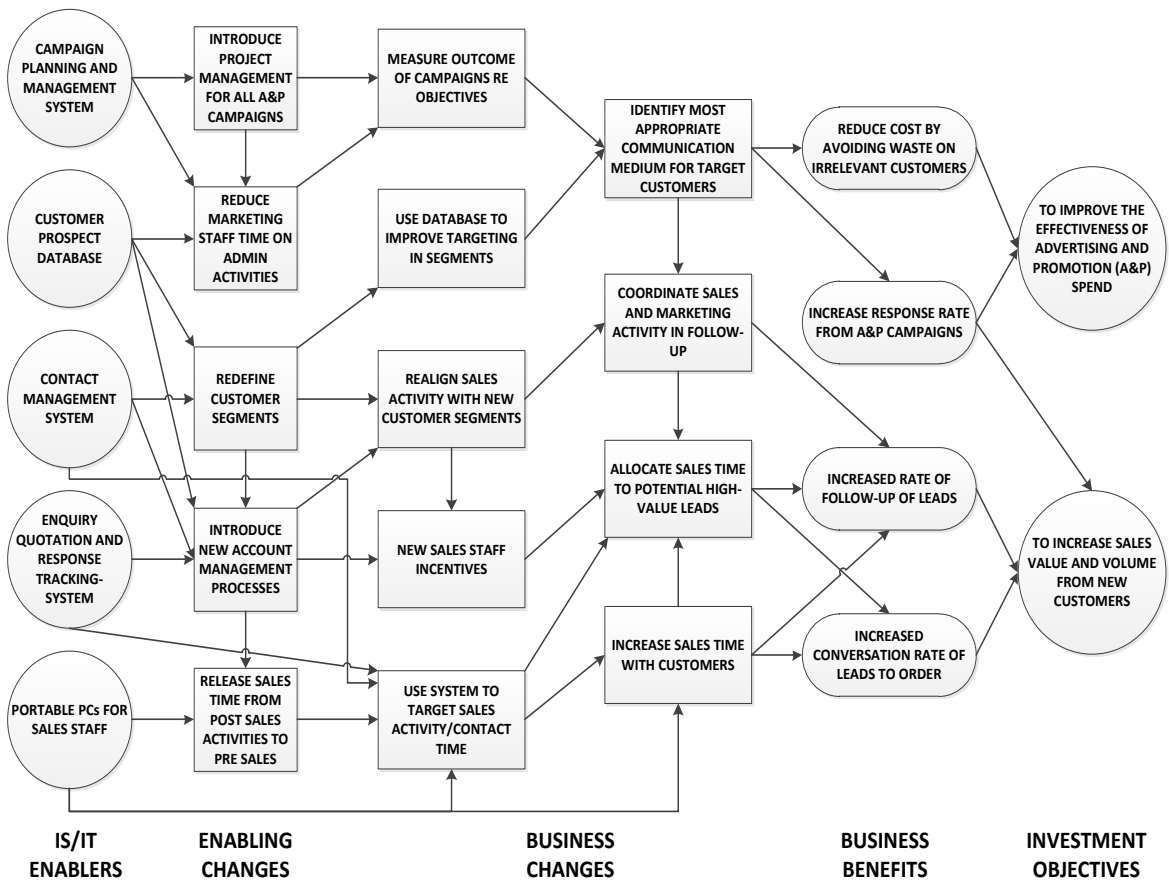


Figure 12 - Example of (part of) benefits dependency network

Appendix 6 – Part III

STAKEHOLDER GROUP	PERCEIVED BENEFITS (DISBENEFITS)	CHANGES NEEDED	PRECEIVED RESISTANCE	COMMITMENT (CURRENT AND REQUIRED)				
				ANTI	NONE	ALLOW IT TO HAPPEN	HELP IT HAPPEN	MAKE IT HAPPEN
CUSTOMERS	CONFIGURATION TAILORED EXACTLY TO NEEDS – NO TESTING/ REJECT	NONE	NONE					
SALES AND MARKETING MANAGERS	IMPROVED CUSTOMER SERVICE AND PRODUCT QUALITY IMAGE	NEW INCENTIVES TO GET SALES REPS TO USE SYSTEM WITH CUSTOMERS	RELUCTANT TO CHANGE REPS REWARD SYSTEMS				C	ACTION REQUIRED? → R
SALES REPRESENTATIVES	(EXTRA WORK IN PREPARING REQUIREMENTS AND QUOTES)	TO USE SYSTEM AND IMPROVE QUALITY/ ACCURACY OF QUOTES	NO TIME AVAILABLE TO USE/LEARN SYSTEMS. LOSS OF AUTOMONY	C				ACTION REQUIRED? → R
MANUFACTURING/ LOGISTICS	REMOVES NEED FOR CONFIGURATION CHECKING. LESS RETURNS/QUERIES	STOP CURRENT CHECKS TO PUT ONUS ON REPS TO GET IT RIGHT	DO NOT TRUST SALES REPS ACCURACY IN REQUIREMENTS/ QUOTE	C				ACTION REQUIRED? → R
IT DEVELOPERS	NEW ADVANCED SYSTEM – REMOVE OLD DIFFICULT TO MAINTAIN SYSTEM	SKILLS IN EXPERT SYSTEM DEVELOPMENT	NONE					

Figure 13 - Stakeholder analysis from Benjamin and Levison

- 1.) DRIVERS FOR CHANGE GIVING RISE TO
- 2.) INVESTMENT OBJECTIVES WHICH RESULT IN
- 3.) BENEFITS BY

AND INCUR

- 4.) COSTS:
 (A) DEVELOPMENT
 (B) ONE-OFF
 (C) INFRASTRUCTURE
 (D) BUSINESS CHANGE
 (E) ONGOING
 ETC.

DEGREE OF EXPLICITNESS	DOING NEW THINGS	DOING THINGS BETTER	STOP DOING THINGS
FINANCIAL			
QUANTIFIABLE			
MEASUREABLE			
OBSERVABLE			

- 5.) RISKS ASSOCIATED WITH THE INVESTMENT THAT MAY PREVENT FULL BENEFIT REALIZATION, ETC.

Figure 14 - Investment Proposal – making the case

Appendix 7 – Interview Summary A1

Question 1 – Background: Interview subject A1 started working with ERP systems in the early 90's. At that time there were no complete ERP systems there were just modules as; logistics, projects and economy. In 95 A1 started working with SAP installations. Now A1 is working as a Business Consultant and have done European rollout of an AX installation and is working with an AX installation now.

Question 2 – Do you use models or methods?: A1 says that they do use methods and models, but up until 95-96 there were none for ERP. When A1 worked with SAP the method was called ASAP and now for AX, Microsoft provides Sure Step. A1 says that they have used the methods since they came.

Is that mostly for the structure?: A1 believes this and says they are used to structure your projects, plan and to create a way of working that fits. Then there are a lot of templates for documents and deliverables so that they don't have to be invented. The weakness according to A1 is that these mostly concern project management and administration, but almost nothing on how this is done in the system with workshops etc. Then the problem is that each project manager has their own idea on how to do things, this means that there is no continuity for the consultants. A1 mostly makes use of an agile method with time boxes and workshops, but it's not fully agile since the ERP system is too big for that. A1 also states that the individual project management means that the consultants cannot recycle the experience when you change the way of working all the time. But when it comes to deliverables, phases and activities you stick to the model.

Question 3 – Milestones: A1 believes the models help keep milestones. The deliverables are almost the same in the models; they are very similar with phases for analyzing and the deliverables there etc. At the end of the phase, when the activities have been carried out, it is either closed or not closed depending if the phase is approved by the customer or not. Every deliverable has to be approved by both the customer and the vendor in joint Toll-gate meeting. Only single activities may be excluded when a phase is closed. If the exceptions are too vast and essential the phase will not be closed. The next phase will not be started until the current phase is closed. A1 also says that most phases are included in every model, it just the pilot study that might be excluded sometimes.

When asked what is crucial for the project: When it comes to the pilot study A1 believes that the GAP analysis is the most important in order to see how much a system needs to be tailored to fit the customer. It is important to get a view on how the customer's processes are. When the analysis is done, a list of all demands on the system is the done and the demands are locked, which means no more demands can be added. Any demands that come up after that will be change requests.

Question 4 – Realizing value: The value realization according to A1 generally does not work and not only for them, others too. The customer is asked to specify which goals they would like to be fulfilled and these are often so fuzzy that they can't be measured. Then the goals can first be measured 6-12 months after the system has gone live which means someone must be in charge for realizing them, which does not interest the customers. A1 believes that in 9 times out of 10 these goals have been forgotten after a month.

The authors asked what drives to project forward and how do you keep your focus: This is the big problem according to A1 since in the beginning top management is involved and they have their goals, then they hand it over to other employees and they have their

own goals. This means that the focus will shift if you are not careful and the new system will pretty much be similar to the old one because there comfort in that. People do not want to change. According to A1 top management believes that a new system will solve the problems but the system is just a tool you must still change the way you work and this creates resistance among the employees. This were change management comes in according to A1, to educate and train the employees. A1 says that this is an extensive task, to change people's behavior. A1 also says that in many cases there is no energy to deal with this. This is an important factor in order to realize the intended value according to A1. Else you are just continuing to work in the same way. It is very important that when the goals have been set that you start working with change management before the actual IT project since the IT project is so extensive that there is no energy for anything else.

The authors asked about the follow up towards the original goals: A1 states that the follow up is not carried out in most cases since everyone is so satisfied that the project is finished. The rest is fine-tuning. From the industry's point of view it would be better if this worked better. But A1 believes that it would be difficult to have this as an activity that must be carried out, theoretically it sounds good but it would be a problem putting it to practice. The customer must be convinced first and the goals must then be measurable. The customers must then ensure that goals are measured and the interest for that is quite low.

Question 5 – Value realization as a service: There is, according to A1, a large problem with this and it is that the customer might not fulfill their part. This would result in that no deliveries can be made. A1 explains that there have been attempts to sell business cases, where goals are quantified and measured, which was attractive to the customer until they saw the price for it. A1 states that the customers are very concerned with keeping the price down and believes that this is due to the reputation IT has of always exceeding the budget. This is why the remove everything they believe is not the core. This is also very risky according to A1 and it puts more pressure on the consultants. A1 is of the opinion that the customers are very optimistic when calculating their budget, which means that you very soon reach the limit. It is better to include a marginal for risks. A1 believes that the understanding for IT projects have been better with the new and younger executives.

Question 6 – Implement theoretical models: A1 believes that this can be difficult since they might be viewed as too academic and that they are often overdone. A1 points out that you need to keep them simple, do not use more than you need. The customer mostly does not see any value in the academic models.

When the authors asked about PENG:

"I like PENG but it is copyrighted which I do not like. This means that I must use every step of it in order to say that I am using PENG. I cannot choose the parts of PENG that I want, which was my negative critique towards them when I took the course."



Appendix 8 – Interview Summary B1

Question 1 – Background: B1 works as Business Consultant and team leader but without the salary responsibility and has been working with this for a little over a year. B1 is mainly working with AX. Previously, B1 has experience working as a product manager and salesman. This has allowed B1 to see two sides of the business, as both customer and now consultant.

Question 2 – Do you use models or methods?: B1 states that he/she has been educated in the PPS model, which is commonly used throughout company B. The PPS model was developed by another company and company B has bought the rights to use it. The PPS model is fairly recognized by the customers according to B1, which is beneficial. But there is sometimes an obstacle that must be overcome, to ensure that everyone is on the same page before starting with the project. It would be better, according to B1, if everyone could attend a one or two day seminar on how the project will be carried out.

When asked about what the model brings to the table B1 answered:

“In my opinion, structure.”

B1 explained this further by saying that it helps to limit things in the project e.g. what is included and what is not included. Also, when meetings should be held, who should make what decisions etc. Clearly defined roles in a project are also explained, with responsibilities and tasks.

B1 also mentioned that company B also makes use of Sure Step provided by Microsoft.

The authors asked if the PPS model is more to the point on what needs to done: B1 answered by saying that the PPS model is much more focused on practicality, in the way that it specifies what needs to be done, who should do it, what is required etc. B1 believes that it is much simpler than Sure Step, there are a lot of documents in Sure Step and many phases. The PPS model is divided in fewer phases but much clearer and it can be tailored to fit the project you are working in.

Question 3 – Milestones, when asked about the most important to get done is B1 answered:

“The most important in ERP projects is to do a clear GAP analysis on what needs to be done and where the time should be spent”

B1 continued by saying that clear guidelines are also vital for a project and that they often see that customers do not know what is to be included. Therefore it is important that it is specified what is included and what is not included. The project specification written is very important, it includes everything to be delivered and every request after will be put up as an extra addition to the project.

When asked how they approached the GAP analysis B1 answered: “There are different ways to write the GAP. Either you list everything that is not included in the AX standard, this is a GAP. Another way that we have been working with more is to follow the process flows and point out here is a GAP and continue to follow the process and point out the GAP again”

B1 goes on by saying that it is very important that you point out the GAP and estimate the time it would take solve this. It is also important that you are generous when estimating the time since it almost always takes more time than expected with testing and so on.

The authors asked if this is done together with the customer: B1 explained that they look at the maps of the TO-BE situation and compared this with how it is handled in AX. After this they arrange a meeting with the customer to make sure that they have understood everything correctly.

When asked about the modeling on the to-be situation: B1 explained that the project manager was not very involved in the actual workshops, he/she is just responsible for booking the meetings etc. The customer appoints process leaders that they believe have good knowledge about the process in question and together with the consultants they model the to-be situation. B1 points out that it is very important that the person is willing to change, that they are driven.

Question 4 – Realizing value: According to B1 this is very much connected to the TO-BE situation. It is the customer that communicates what their goal with the project is. Then the consultants have to tie this together when they model the to-be situation. It is also important not to put too much focus on what has been removed in the to-be situation in comparison with the as-is situation since activities might have also been added. B1 also points up that it is very much up to the customer as well to realize the value. Sometimes they are not working in the way that was first intended, which results in that the value has not been realized.

When asked if it was up to the customer to ask for a follow up on the goals B1 answered:

“No, I believe it is up to us as well. Have we done a successful project, has the delivery been successful? We measure ourselves on if we were able to help the customer. If they can see the benefits on what we have done, we have done good project.”

B1 continues by saying that he does not believe that this is always done. This decision to follow up the results should be taken in the beginning of the project before anything has been delivered.

Question 5 – Value realization as a service: B1 believes that this can be done but that it is a tough goal to reach. The analysis would be very large in order to find the problems. An analysis to follow up what has been achieved is also necessary. I believe this is difficult. This puts very high demands on both the customer and the consultants and also demands a very clear definition on how the goals should be achieved. If it is to work exactly on one way and to clearly set limits as well. The scale of the project will increase fast with hundreds of activities that need to be analyzed. B1 believes that this would be difficult to manage and for the economy to break even. A lot of work needs to be done concerning rules and regulations. B1 also believes that this would put more pressure on the customer as well to follow the agreed upon changes and would ensure their commitment.

When asked if they are actively working with change management: B1 answered that nothing had been spoken about it but that he would like to work more according to; how people are, how to initiate change, which buttons to push, and what is important to think about. These aspects should be taken more in to consideration according to B1. It is up to the customer to make sure that the right type of people are involved in the project, it is also the customer’s responsibility to ensure a good delivery. Sometimes the customer puts in

two or three times more time in the project according to B1, it therefore important that they have the right attitude towards the project.

When asked if a specific model for change would be preferred B1 answered:

“I think it would help if e.g. if you are dealing with a process leader that is not so willing to change. What buttons to push? What is important? Which way to go? How to make him follow my thoughts? You have a lot of your own ideas that you use to move forward. Active communication with them and trying to get them to understand. More background on what is important could help in my opinion.”

B1 continues by pointing to communication as an important factor in the project. To make sure that everyone is on the same page and know what the others are meaning. This common understanding is handled in the first phase where the AS-IS and TO-BE situations are modeled. According to B1 it is important to make sure that everyone is on the same page since B1 has experienced this several times were consultants and customer misunderstand each other.

The authors asked how the customers respond to the time estimates: B1 responded by saying that it is important to communicate with everyone involved before notifying the customer how much time on activity will take. To only communicate the total estimated time to the customer is something B1 pointed out and these are then approved or not approved by the project manager from the customer side. There are often times when the estimates are not approved and you must then able to motivate why this time is needed, what it is that needs to be done. To be clear what is to be done.

Question 6 – Implement theoretical models: B1 states that it might be difficult for people to see the value of the theoretical models. They start questioning why they should use it. Often when you take a quick look at the project you disagree with how it is done in reality. But according to B1 you have to look deeper and identify how a model can be of use for the project. There might be parts that are useful and relevant. Sometimes the model might be right; we might be the ones doing wrong. Therefore it might be favorable to look into the models a little bit more. B1 believes that this might be difficult in the beginning and that many maybe tailor the model according to their own experiences. But B1 believes that they can be useful in order for helping consultants and customers to strive towards a common goal.

When asked what the keys for projects to be successful are B1 answered:

“The feeling is that it is very different on what turns out to be a successful project, how a successful project is defined. The customer might define it in one way and we in another. If we have delivered everything and it works, we think it has been successful. But the customer might think it is a total failure. So the communication there in between, as we talked about earlier, is important. When the guidelines for a project are set they should clearly define what to deliver.”

B1 believes that clear guidelines from the beginning even though they will change along the way are important. Clear guidelines, a clear model, and a clear structure on how to run a project. B1 continues by saying that projects that take longer than expected are immediately seen as failures. As soon as the go-live date has been exceeded the project has failed but according to B1 it can still be successful since there was time to finish some improvements that else would have been excluded. B1 also believes that the go-live dates are a little optimistic. There are always things that come in between, such as vacations. There are many things that will delay a project. B1 feels that the customers overall are very optimistic and that many of them believe that it's just to put a cd in the computer and press install. In

some cases the customers are stressed because of an expiring license or support agreement. B1 also states that the stress might have a positive effect in making the customer more accepting towards change.

B1 also believes that some cases also fail as a result of the lack of structure. Some important things were missed as a result of this, but that the PPS model helps the project manager with this. A list of all the risks should also be made according to B1 since this would help to plan for them if they should arise during the project.

When the authors asked if a certain model, e.g. PENG, was used to set the goals B1 answered:

“I don’t know how this is done since there are different people doing this every time”

B1 still believed that a standardized model could be beneficial because of the common structure it would bring and that everyone would work in the same way. It would be easier for new people to join a project as well instead of bringing them up to speed on a new way of working. B1 continues by saying that even though it would bring structure with working according to a model it is important that you still keep the flexibility in order to be able to adapt to changing requirements. B1 says that finding this balance between the two of them is very difficult.

Appendix 9 – Interview Summary B2

Question 1 – Background: B2 is working as team leader for both the Jeeves and AX consultants. The job is about guiding the consultant and to be an aid in their daily work. B2 points out that it is not like being a team leader in a production company, telling the employees exactly what to do, it is more to steer the consultants in general, setting up guidelines for both long-term and short-term. B2 also points out that he has not worked hands on with AX.

Question 2 – Do you use models or methods?: According to B2 company B is using different models in the different systems. But overall company B is working with the PPS model provided another company, of whom company B are a plus-client. Which means that the project managers have access to all the material concerning the PPS model and can be given aid if necessary. More specifically tied to AX Company B use Sure Step developed by Microsoft.

B2 continues to talk about the PPS model, explaining that when you take the course you receive a binder with information that will be of aid in projects and the different phases. It helps to identify the activities to ensure none are missed.

B2 believes that when working with models it is important to spend much time in the beginning of the project, since this can be the factor that decides the entire project. Make sure that the groundwork is done properly so to say. B2 points out that if the work is not done properly in the beginning it will be very difficult to keep track on the project as it progresses. B2 shows on the whiteboard how the model supports this, by breaking down the activities of an installation. The economy part can be broken down into several underlying activities etc. B2 summarizes by saying that PPS is the main model and that other models are used for help and support during different activities.

When asked what the most important part a model like PPS brings to a project B2 answered:

“It is a support all the time but you can’t rely on it fully, it supports you in every step. There are templates if you want to write e.g. a stakeholder analysis.”

B2 continues by saying that there is support in the model for most situations that may or may not happen during a project. It also brings a structure to a project that might otherwise be forgotten or overlooked, regarding communication and clear roles. B2 continues by explaining that there is a head project manager and a secondary project manager that will have more in depth responsibility, while the head project manager has the overall responsibility. In the bigger projects this is necessary since it will far too much work for the head project manager otherwise.

Question 3 – Milestones: B2 believes that when working with milestones the level consultancy of the consultant plays an important part. That when the activities have been delegated it is up to the consultants to make sure that they are finished in time. If the consultants have accepted the task along with the time plan, the responsibility now lies on them. B2 points out that this is something that comes with experience, to be able to plan your calendar accordingly. It is a totally different way of working than knowing exactly what you are doing every day.

B2 continues by explaining that they communicate the time the certain activities will take with the customer and the document sent to the customer states how the time will be used. A margin is also included in the project if more time should be needed. B2 explains it like this:

“We have a price for the work to the customer, e.g. 1200 SEK per hour or 1000 SEK per hour, but we only use 900 SEK per hour when the money is divided in the project. The rest of the money is gathered and acts as a reserve if we realize that it took e.g. 30 hours longer for a certain activity”

When asked if the customer usually accept this B2 answered:

“An implementation is usually at a set price so there are not that many discussions regarding this. But there are discussions when the customers want more than what we have sold to them. Mostly they are of the opinion that something they want should be included in the standard version. Sometimes we have to give in if we believe that their request is valid and sometimes we reach an agreement with the customer e.g. the activity takes 20 hours but they only pay for 15 hours.”

B2 further explains this by saying that sometimes they need to stand their ground not only to get paid but because the project manager must keep track of the project triangle. B2 paints a triangle where the three corners are; time, cost, and result. Every change in one part affects the other parts. B2 continues by saying that all of this is specified in the project plan written by the project manager and later approved by the customer. It is important that the customer perceives it in the same way as the project manager.

Question 4 – Realizing value: B2 starts by talking about the possible risks and that these are different depending on the cases. A risk analysis is done together with the customer and then kept under a watchful eye during the project meetings. There always a sum of money that is set aside if some risks should occur. B2 believes that a good communication in a project will minimize the risks.

When asked about the project goals B2 answered:

“It’s always the salesman who is responsible for the overall business goals. The project manager is never responsible for the overall business goals.”

B2 further elaborates on this by saying that the project manager is only responsible for fulfilling the goals of the project. The project goals are fixed states such as an installed ERP system. The overall business goals are then broken down into the project goals.

When asked how you keep the focus in a project: According to B2 this is done during the project meetings, you check that you are on the right track that the project and that you work towards the project goals. This is a continuous process, to ensure that you are working towards the right goals.

The authors asked if it is difficult to keep focus when dealing with the regular employees: B2 replied by saying that this can be difficult since the employees might have their own agendas. Therefore the project manager should not be involved to deep instead has more of an overall responsibility. This can be difficult in smaller projects where the project manager can have several roles. But this is where the consultant has to stand his ground and hold the employees back. Turn focus to what is important in the project.

Question 5 – Value realization as a service: B2 believes that for guarantees to be made the fixed price must be much higher and that the responsibilities must be divided differently. It can be done but it might be difficult, it is up to the customer to realize the overall

business goals. The system might be capable but if the overall business goal is to cut down on staff it is up to the customer to realize it. There are a lot of ways to save time but when it comes down to it, it is seldom realized according to B2.

B2 continues by saying that since the overall business goals are often very difficult to measure objectively it would be difficult to guarantee that they will be reached; the customer might manipulate the results. It will therefore be difficult to put a warranty on value realization.

When asked if this would put more demands on both the consultants and the customer: B2 agrees with this saying that in some cases the overall business goals can be quantifiable but mostly they are not. Most overall business goals are about time savings but according to B2 the employees do other things in that time. Since the benefit is not always financial it is very much up to the customer what you do with the time saved in this case.

The authors asked if KPIs have any affect when setting the overall business goals: B2 believes that this is very much the case and to what degree depends on the scale of the project. For bigger projects company B has a certain person working, together with the customer, with this. B2 points out that in the end the customer controls how the overall business goals will turn out. An important aspect is still that they must still be measured, which is something both customer and consultant must become better at according to B2.

When asked about follow-ups to the project B2 answered:

“We always follow up our projects and look at these parts. But since there are so many variables it is difficult to establish a certain method or fixed measurements.”

Smaller customers, according to B2, are not as concerned with the overall business goals since they might just be interested in a certain module. They might not even read through the documents.

B2 refers to the PPS model when asked about how the scale of a project is categorized. Less than 15 points is classified as an assignment, 13-25 is a mini-project, 20-40 is a mid-level project, and more than 30 is classified as a megaproject.

Question 6 – Implement theoretical models: B2 points out that in the case concerning company B, it is very much centered on the relationship between customer and supplier. There might be some discussion around this and it is important to be very clear in order to avoid unnecessary discussions

When asked what CSFs are for a project B2 answered:

“In our case it is that the same people are involved during the entire project, from pilot study, GAP analysis and to the end of the project. That, together with proper documentation in every phase so that you have something to lean towards both during the project and in the follow up if there were to be discussions on what was included or not included.”

B2 continued by saying that it is important not to stress the project; instead it is better to take your time and do the work properly. B2 also points out to not do too much just to be nice since this can result in that you will not be done in time etc. This comes back to the project triangle with time, cost, and results.

Appendix I0 – Interview Summary B3

Question 1: Interviewee B3 works at company B and is currently working as a team leader for business management consultants and sales representatives. Previous experience involves the role of Key Account Manager (KAM) at IT and telecom companies, application consultant and salesperson for an ERP system. Has also been team leader for ERP consultants working with among other, Microsoft Dynamic AX. Personal experience suggests that the difference between business consultants and ERP consultants is how they work in a project. Business consultants are more involved during the initial stages, whereas ERP consultants enter the project at a later time during integration.

Question 2: According to interviewee B3, the model used by the organization is called PPS (Praktisk Projekt Styrning – Practical Project Steering/controlling) at it is a method that is established within the organization and is frequently used by all project managers/leaders. It is also a well-known method outside the company, especially in the north, as a known company, which maintains and administer it, developed it. The client(s) can take courses both from the company that developed it and company B.

In response to a question regarding what the interviewee B3 perceive the model to contribute to the project:

“...I have worked with different ones, [models/methods] and what distinguish this model is the content of practical templates, administrative templates for the project leader and its practical approach, which is an advantage in my opinion. However, it demands that everyone involved in the project understands the model, otherwise it is hard to follow”

In response to a follow-up question concerning the situation where a client(s) has not been educated about the model, is that reviewed beforehand?

“...preferably it should be done and we have talked about introducing a light version of the PPS for such an occasion, but it has not been put into official practice. If it could be done it would be good for the overall project quality, ensuring that everyone understands each other. This is an area we can improve ourselves within”

Question 3: In response to question 3, interviewee B3 suggested that there are three documents that are highly critical to the project; a structured job estimate along with a signed agreement of the undertaking, a structured project directive and a project plan and thirdly a resource plan is created. Together these documents clarify what was sold/undertaken/agreed upon, how the project should be undertaken and with what resources. Furthermore, Interviewee B3 suggests that a steering committee is appointed; otherwise it is not a project.

In response to a follow-up question regarding the PPS method and if it supports the identification of important stakeholders, or if the client(s) are the one to suggest who should be involved, the response was:

“...quite often, the client(s) has an idea regarding who is their in-house project /manager/ leader, and it is desirable that such a person exists, otherwise one is forced to work with the steering committee directly which is more complex as opposed to having one point of contact regarding project issues. However the PPS method supports this process and offers a stakeholder analysis template in the form of an organization chart.”

In response to a follow-up question regarding the PPS method and if it supports the user faced with change inertia, the response was:

“...yes there exists part to use in the project and one of them is status reports which you distribute to project participants. Furthermore you can work internally with risk analysis to determine what kind of individuals are we facing the client(s) site. This is usually done by the project group and the sales person to get a better view of political interests that can affect the project. To avoid this problem we try to work in workshops and get everybody onboard and to discover who might voice their opinion later on. However, the risk analysis is not very common to be done with a client(s).”

Continuing with question 3A [focusing on milestones and how to keep them] we got this response:

“...when we create the project plan we also create a time plan and an activity plan, and that is done with consultant(s) and the client(s). We work every week against these documents and during meetings we evaluate how we are performing against what we aimed to do to see if we are on time or if we are late in a particular part and what cannot be done before we are done with previous tasks. Continuous follow-up at the meetings and sticking to the documents and templates and keeping the up to date is a tool we use in projects.”

In regards to if activity follow-up is the most important or if the project goal follow-up is the response was:

“...if the project is smaller, the focus is to monitor the activities, as they [the projects] are more operational and you as a project manager/leader are involved in the project. In a larger project involving ERP systems the project manager/leader has an administrative role monitoring time plans, activity plans and overall deviation from the project plan. In that sense we focus more on benefit management in larger projects and in smaller the focus is on the activities performed by the consultants.”

Concerning a control question and further elaboration if we had understood the interviewee B3 correctly, if smaller are operative and larger administrative, and if it can be hard to keep track of the overall goal of the project, for example if new requirements could replace the original, the response was:

“...yes, especially when it comes to communication with the client(s) project leader, project group and steering committee” [referring to the role of the project manager/leader]

“...that is a question that the steering committee is appointed to handle. They are in charge of controlling and identifying the goals of the project, and to evaluate possible addition of new or removal of old. In these cases a log is kept to monitor changes in the project goal(s), which is important from a consultant agency's perspective since changes can demand more work?” [time, products, services]

Question 4: According to interviewee B3, the consultant agency has developed and uses their own model when it comes to analyze a client(s) and their situation. The model targets benefit management as one part and covers areas such as; strategy and vision, overall processes and the effects of an ERP system. By evaluating these parts of an business, they are sure to cover benefits and values for the client(s) and in the development stage, which follows after the analysis stage, they document the AS-IS situation and the SHOULD-BE situation, all according to their own model. According to interviewee B3, this is a very important part of the project as they look into possible solutions and possibly even a primary choice of ERP system. Together this makes for a more supple implementation process. Furthermore it is important that the benefit management is linked to what was planned in the beginning.

Concerning a questions regarding how benefit management is handled [goal identification for example] and if a certain model/method is used i.e. the PPS model the response was:

"...I would say it is our own model, rather than PPS, that support our benefit management in identifying goals and we try to work with benefit calculations, using a model called the PENG model. Through the use of that model we calculate for both tangible and intangible benefits"

As a follow-up question we asked *"is PENG used by all consultants or do they decide to use it or not on their own? And is it the whole model or parts of it?"* and the response was:

"...the model is primarily used by business consultants focusing on business development and it is the whole model which we add into our own model"

Concerning how the model was used by the consultants the response was:

"...with good questions and follow-up questions you can estimate what differences will the ERP system make in terms of time and money and when PENG is used a lot of people participate in workshops"

As a follow-up question we asked how they worked with the benefits identified at the start of the project, is there any continuous follow-up during or after the project and if there could be any troubles doing this for them or the client(s), the response was:

"...we are trying to do it, especially during ERP implementations since I started to work here, but we have decided that we have to improve this process nowadays. And currently we are doing two projects where this is a part of the main focus."

"...it can be a bit of both actually, after such a project [ERP] most people involved are so happy that it is up and running and that the project has been approved that you let it go and start with the next project. Usually we say that 20% of a project devoted to our initial model should be devoted to benefit management. This means that the client(s) should spend 20% of the projects time on benefit management in a continuous iterative evaluating process to optimize the contribution from the ERP project, but there are few that do this, even if the organization would benefit from it since it is not the actual system that matter, but how it is put to use."

When asked what could be the reason for not spending 20% of the time on benefit management, the response was:

"...it might be because after the project is done, the structure created for the project is disbanded and people go back to their regular work, leaving the responsibility to single individuals rather than the organization as a whole."

Question 5: According to interviewee B3 in response to question 5, the situation is often that the client(s) wishes to discuss sanctions if the delivery, or the project for that matter, is unsatisfactory. However, in accordance with the PPS model, the one responsible for benefit management and value realization is the job requester i.e. the client(s). This means that the provider can support, if tasked with, the client(s) in this process, but the client(s) is the benefit owner and has the final responsibility, making it quite hard for the consultant agency to guarantee anything regarding this. One can say that the consultant agency provides the tools and means, but the client(s) has to realize it and this is especially true and important if there is more than one consultant agency present. For this to be possible, according to interviewee B3, the more they control of a project, the more they can direct it. This means that by being tasked with applying their whole model consisting of; analysis stage, business development stage, implementation and value realization they can direct the project and demand more from the client, which is according to interviewee B3 vital for any such guarantee to be possible. Another important factor that emerged during the interview was the client(s) responsibility. If the provider obtained more responsibility for the project, the client(s) was responsible for carrying out changes to their own organization, a responsi-

bility, according to interviewee B3, which the provider should never have. This means that although a shift of responsibility over the project could be made to ensure that at least somewhat higher degree of values were realized, the end responsibility was still the client(s).

However, a significant challenge, or obstacle, was also identified. While the provider is interested in taking care of the whole process, interviewee B3 shares experience regarding projects that tells a different story. For a client(s) it is customary to involve more than one partner in the project, employing experts to each part, but interviewee B3 disagrees with this, stating that it is cumbersome to be too many and that it is easier if you have one that is responsible. Of course this might be because the client(s) wish to put the risk in different positions, rather than all eggs in one basket. As an additional challenge this tasks involved parties with communication challenges and coordination challenges.

Being in charge of the whole project or not also reflects in the planning process. According to interviewee B3, it is easier to agree to a consensus regarding time and resources if they have been involved from the start, rather than being contracted for only a minor process in the overall project. This is further reflected in the trust and respect, with higher levels of both in larger commitments and lesser in shorter undertakings.

Question 6: In terms of question six, interviewee B3 stated that when the question was first noted, the most obvious issue was the different interests of project participants. In a project group everyone is different and they have been picked for the knowledge. For an employee at the client(s) site, this means that they are working double time, with the regular work and the project work. This means that you have to focus on not over encumber them with things that are not vital for the project. In this challenge, communication is vital and in correlation with theories, it becomes increasingly so. Theories are in general only known to the person aiming to apply it, which diffuses the communication. Although the theory may be valid, it adds to the challenge of communicating the project. Interviewee B3 uses the PPS model as an example, stating that even that method, is only used a light version, where specific parts has been selected to be included in the project. This makes the method more comprehensible, which is important for theories. In terms of the possibility of new models or methods being introduced, interviewee B3 perceived communication and consensus as the main challenges since project participants needs to understand what tasks they are assigned to. If the project manager/leader delegates responsibilities, it is assumed that participants understand the activity. This process could sometimes be better and more official just to make sure that people understands their tasks. The best way to ensure that people do understand is to create the overall project plan and the break it down into smaller parts and work with status reports.

Summary question: In regards to change management and if they employ it, interviewee B3 responded that they often coach the client(s) with this, during AS-IS and TO-BE. Hopefully the client(s) steering committee listen to the provider, otherwise any suggestions for change seem like a wasted effort from the provider's point of view. A change management project can be applied, but it is considered as a separate project from the ERP project.

Appendix I I – Interview Summary C1

Question 1: The interviewee C1 from company C is currently working as a senior business consultant within the field of production and logistics with the ERP system Microsoft Dynamic AX. The person has also worked with other areas such as data migration and project leader and has gained much experience from this. The work obligations involve analyzing a client's operations, mostly from an ERP system point of view, and how the client could benefit from such a system.

It is important according to interviewee C1 that one understands different operations, but also how the system should be used. In this process, gaps usually appear between the potential system and the existing and/or futures processes the client has or would like to have. In a broad sense, the work aims to teach the client the basics of the system and how it should be used. This involves evaluating old processes and creating new ideas how the client should work so that the client doesn't get stuck in the old ways but with a new system. In the process of creating new processes that fit the new system more properly, there is a continuous process of mutual exchange between the senior consultant the client in finding out the best possible solution.

Question 2: On question 2, the interviewee specified that they used a different set of models depending on the system that they were working on. In terms of the ERP system from Microsoft, Dynamic AX, they use a methodology called Sure Step which has been developed by Microsoft for their partners to use during Dynamic AX projects, *See appendix Microsoft Sure Step Methodology for model*.as well as a project model called PROPS. Another tool that is used is a program similar to Microsoft Visio, which allowed the user to create a visual model, much like in Visio, but this program was connected to the system, making connections from what was being drawn directly to the system without the need for programming skills. Most often they use Microsoft Visio to highlight processes. There can be said to be three stages in the initial pre-study where the consultant(s) and the client(s) look at the *AS-IS* situation to determine how things looks like today, the *POSSIBLE TO-BE* situation to evaluate where the client(s) could be in the future and at last the *FINAL TO BE*. Together these comprise the range of a project; what the consultant(s) believe they can deliver and then estimate the costs for the project.

Then according to interviewee C1 the next steps of the project of actually getting started involves work finding solutions to actual problems and verify them in the system through tests, integration and configuration.

Question 2A: On the sub-topic of project models, interviewee C1 answered that the model(s) contribution to the project was familiarity. *"...after several project you amass experience and you start to get familiar with [the model/method and] why you do certain things rather than everyone trying to figure out what to do. So you recognize why you do certain things and their purpose in the project. The longer you can keep the same project model and continue to use it, the more superior it gets. If you have a project with 10-15 people, it is important that they share the same experience, otherwise project participants could interpret the model differently."*

Question 3: According to interviewee C1, the most important milestone in the project is the process of creating and signing of a GAP analysis focusing on the gaps between the business and the system that is going to be implemented. This is a part of the initial pre-study and you can, according to interviewee C1, even go beyond the GAP analysis and evaluate and select a specific system. Interviewee C1 mentions that he does not participate

in the later process, but does sometimes perform client presentations of Microsoft AX so that the client(s) get a feel for the system before selecting one. During the presentation, [often a demo version of the system] the process is still quite young and the aim is to see if the standard system covers the needs of the client(s) and if they perceive it to be appealing.

Question 3 Follow-up: When asked a follow-up question concerning how a specific activity [process] is done currently and how it should be done in the future and if he as a consultant figures this out along with his colleagues alone or if they do so with the client the Interviewee C1 responded:

“...you often do this together with the client(s) because a red thread through all of these projects is to educate the client(s). First you have to educate the super-user, then the super-user get to educate the rest of the end-users, and you must have a plan for when and how this should happen, and of course you don't educate the super-users in how the system work before the GAP analysis is complete”

Question 4: Regarding the question number four and how they worked with benefit management and value realization, interviewee C1 responded:

“...generally speaking, at least in the projects that I have been involved with, has this been a rare occurrence, although there is usually a specified goal regarding the project, but the follow-up process is less than satisfactory, and often the main purpose is nothing more than to switch system. Quite often the client(s) has a very old system with fading support [the provider might not exist anymore or in-house staff could be retired] or the system is a patchwork of ten different old systems that the client(s) want to exchange. In these cases I rarely see the process of benefit analysis and/ or value realization.”

When the authors asked a follow-up question, if the process could be seen simply as a necessary process of surviving rather than anything else the response was:

“... yes you almost have to see it that way, at least in the cases which I have been involved with. The client(s) has quite possibly lived with their current system for almost 15-20 years, and if so, the provider of the system might not exist anymore or they ceased supporting the particular system, consulting agencies might also have stopped offering it since its old and less relevant, which puts the client(s) in a bind as they might only have one or two in-house consultants which knows the system inside and out, but are close to retirement, or even past it! This poses a very large risk for the client(s) to keep a central ERP system which only one or two people can support. Furthermore the platform is also quite old in most cases as the IT field move quite fast, both in terms of integrations between systems, but also in terms of how a system behaves and looks like.

So I usually don't see this [regarding question 4] in my projects as they are very complex and involves a lot of different parts. This could be more [regarding question 4] frequent in smaller systems. During those projects I could imagine that you would look into that, but when you switch one ERP system to another, it affects too many factors, from finance to production, which makes it hard to analyze and quantify. In some cases you want to consolidate seven systems down to one and in those cases it is easier to measure and calculate on them, especially for the client(s) management board which can be pressed for showing the value in switching systems.”

When the authors asked a follow-up question, if working with this [referring to question 4] could benefit the ERP project if one had enough time and resources, the response was:

“...of course some goals could be measured, but there could be a lot of potential goals available, which creates a necessity for selecting the most business critical goals, but in terms of ERP projects, there will be too much work to be done, it is therefore more focus on getting work done in terms of educating the client(s) about the system, understanding the specific requirements of the system, and together with benefit manage-

ment this will be hard to do. From another sense, this is more of a change management situation targeting the change inertia that might exist, but this is not our primary objective, the client(s) has chosen to switch system, so we work with the GAP analysis and how we have to change the standards in the system to fit with the client(s) need(s) and that all of the important data is migrated to the new system”.

When the authors asked a follow-up question, if the Change Management part was more in the hands of the client(s), rather than in consultant(s) and if they could be asked to support the client(s) with the process, the response was:

“... yes we can help, but it will not be ERP consultants, it will then be specific change management consultant(s) that are brought into the project and they will pursue their project parallel to the ERP project. So we are affected by the situation, but as an ERP consultant, myself or my team do not take part in it primarily. In such situations it is the client(s) and a change management team running their own project and this team may not even be from our company, depending on what the client(s) wants.”

When we asked about possible challenges with working together or alongside another agency the response was:

“...usually there is no problems with working like that, the problem lies in removing the change inertia present at the client(s). Sometimes it might be ineffective to keep the old processes along the new system, and bottom line is that the client(s) must be willing to change and open for suggestions to new ideas, otherwise the new system will mirror the 15 year old system. Because of that we do work a little bit with making the client(s) more open to change so that no one gets stuck in the old system. To do this we attack problems from different angles to see if things can be done in the new standard system, albeit in a different way.”

Question 5: According to the interviewee C1, it has been his company’s policy to share the risk with their client(s) following the conditions that measurable goals can be defined, but during the twelve years at the company, the senior consultant has not been involved with such a project.

In response to a follow-up question regarding that [referring to question 5] it could be hard to put this into practice although it sounds nice in theory the interviewee responded:

“...the client(s) must see the project as an opportunity and be willing to share the risk with us, but out of 10 years working in this field, I would suggest that 90% of all projects are following the old model” [referring to working in a waterfall process]

In response to a follow-up question concerning the possibility that the consult agency is ready, but the industry (clients) is not, the response was:

“...yes, especially when it comes to measuring. From a client(s) point of view, they have realized that they need to switch system regardless of how it is done; the present risk of having an old system without any support is enough push. I would therefore say that it is not in terms of what kind of value the client(s) can realize, but what kind of losses they can avoid on each part involved initially. It is still a fact that switching between ERP systems does not generate any return, in fact, it causes a lot of work for those involved, and that is what is important to minimize, at least in my judgment of working with different client(s), large and small ranging back to 1993”

In response to a follow-up question concerning the assumptions that the consultant agency might be ready and willing [referring back to question 5] but the client only wishes to switch system and that’s it, the response was:

“...we have profiled ourselves as willing to work with this issue, but as mentioned before, there are few client(s) willing to do this. It might be more customary during smaller projects that are not concerned with the

larger ERP systems since it might be easier to realize and calculate the value. A ERP system is complex and there could be for example 25 different integrations, and to understand the value of each integration as oppose to the previous one and in correlation to connected business processes, it becomes a lot to analyze, too much to work with at the same time, and this might be one of the reason for the low interest” [referring to question 5]

In response to a follow-up question concerning the fact that ERP systems is a complex undertaking and the interviewee C1 could see a solution to the problem being discussed, if breaking down the problem into smaller bits and pieces to realize a higher value during ERP implementations, the response was:

“...I have a hard time seeing it. Currently it is common to figure out how much of the old configuration are necessary to keep in the new system instead of targeting a more visionary goal of maybe reducing the overall costs with 25%. If the target is the cost reduction, maybe it is more beneficial to conduct a BPR project, [Business Process Re-engineering] and I have worked with those as well at my previous job, but they were not connected to a specific ERP project, but they were connected to measurements and reduction of for example a specific lead time. To work with the measures a similar project structure of using forecasts and forecast follow-up.

In response to a question regarding that maybe it is necessary to think in processes rather than GAP analysis to use measurements, the response was:

“...yes, most often we get into a situation to see if the client(s) has to do what they do now in the future system as well or if there are better alternatives. Sometimes this works and sometimes the client disagrees, mostly because of lack of understanding the new system”

Question 6: According to interviewee C1, the problem with this is that there is no room for them in the project. The budget and timeframe is set and it is more important to focus on substantial tasks to get the system operational [mentioned in q4]

In response to a question if theories could be too academic, making them impractical and if when in a project change management could be performed.

“...if you look towards this area, such as BPR, they have to be run in parallel to the ERP implementation project since they focus on two different things. Usually a BPR is prior to the system project as one conclusion from the BPR could be that there is a need for a new system”

In the end of the interview we asked a summarizing question regarding what interviewee C1 thought was the most important during an ERP project, and as a follow-up to that question, is roles clearly defined in ERP project, judging from experience.

“...the most important thing is to get an ERP system implemented as fast as possible. If it takes too long time, new configuration requests will appear and the project will consume more resources [time, money, people]. It is therefore important to get the system into an operational shape before doing the mass of configurations, sometimes one tries to deliver too much at the same time. One of my principles is Keep it simple, because an ERP system might affect 700 out of a 1000 employees and/or stakeholder and parallel to the project they keep doing their day-to-day tasks. It is not until the system is in place that the end-users can really learn and grasp the new system.”

“...it is necessary to have a specific project model to run a project and it is necessary that everyone understands that model. If a common understanding does not exist, it can create unnecessary problems and work down the road. In this model roles and tasks are assigned along with an understood purpose. We often work in terms of four roles; finance, technical [programming/development], logistics [production, processes] and project

Appendix I2 – Interview Summary D1

Question 1: Interviewee D1 works primarily as a solutions architect at company D and has done so for the last couple of years within the field of ERP systems. Systems have been Microsoft Dynamic AX and other common systems.

Question 2: According to interviewee D1 they use their own in-house method, which has been developed together with another company and the model is used globally. According to interviewee D1, the positive side of working with an in-house model is the correlation to services and products, which means that you have access to templates necessary for the daily tasks. In size it incorporates all that is necessary, but is usually reduced to a light version more fit for each project. It offers both administrative and practical support for project participants and the most important contribution, according to interviewee D1, is the common view of the project and associated activities.

Question 3: In response to question three regarding milestones, the response was:

“...the most important parts during the starting stage are the creation of scope and planning documents. During those activities you specify the frame for the project in a clear way, and milestones are a good way of ensuring that you did what you were supposed to have done, when follow-ups are done later in the project to see what was actually agreed upon. Often discussion regarding this arise and then it is good to have a structured and clear plan and that the client(s) has signed off (agreed to) what was specified before the project was initiated.”

As a follow-up question we asked what happens if activities are added to the project, the response was:

“...it depends on how the contract is structured, but we have a pre-defined change management process for change requests, so if things are added outside the scope, a change request must be submitted and approved. If the change request is significant, a business case might be necessary. But it is important to define what is inside the scope and what is not if change requests appear.”

In response to hearing about business cases, we asked if that was the usual approach towards project, we got this response from interviewee D1:

“...yes, we always try to use business cases, but sometimes the projects can be quite small and a full blown business case might seem like an impractical idea. During those situations we break the business case down into a light version.”

Question 3A: In response to question three A, the response was that they use their method, which specifies what activities should be done and they apply regular status reports to make sure they follow the project plan. Additionally they apply Microsoft tools, such as MS project server and Sure Step. (Sure Step can be found in appendix X)

Question 4: In response to question four, interviewee D1 responded as following:

“...we work with this, but the conditions are different in every project, it all depends on the input received when entering the project. A project can start with a business case, which offers the opportunity to link requirements to demands during the requirement specification process. After that it is a matter of designing a requirement list linking what can be done in a standard version and what requires configurations, or even third party products, to meet the demand(s) of the client(s) that was agreed upon during the initial stage of the project. This means that it is important to have a red thread from the business case to the sign off. Some-

time there might be any requirements specified for a certain part and in those situations you have to start with either standard or pre-configured settings and change them when needs arise.”

Question 5: During the discussion of question five, interviewee D1 offered the opinion that guaranteeing value from an ERP project is very uncommon since the ERP systems by default do not delivery any value on its own, it is always how the system is used and connected to the business which makes a different. Since ERP projects generally focus on either switching between systems or implementing a new system, there are too many factors beyond the control of the ERP project team to ensure any guarantee. Interviewee D1 acknowledge that there exists a number of tools and methods for calculating value, the personal opinion is that they are most often used by sales personnel and is only present in other stages on rare occasions. In response to our follow-up question regarding what is necessary to put the practice of guaranteeing value realization in use, interviewee D1 still believed the issue to be quite impossible to realize due to factors already mentioned in question five. It becomes impractical due to many factors involved, but there might be areas it can be applied, areas more suited for being measured such as lead-time optimization. To increase the value of ERP projects you need to become faster as they have a tendency to become long and almost never-ending, which is one reason why value realization is hard.

In response to this we asked a follow up question concerning what D1 thought was necessary for making ERP projects faster, thus creating value, and keep the high standard. Interviewee D1 responded:

“There are a lot of factors, firstly the system itself has to become easier to deal with (configuration) and contain enough information to handle the common flows. Secondly, the project method is important and should offer a strong stable structure to ensure the project plan is followed. This is a hard challenge to beat, since it is not only the provider that has to overcome it, but the client(s) also has to understand the importance of this and support it.”

As a follow up question we asked if project management/leadership and possibly change management could be a key issue, the response was:

“...Yes, it is important to work faster and more agile and not after the old waterfall model. It is important to use workshop oriented activities, which are supported by modern systems such as Microsoft Dynamic AX, which we work with.”

To clarify the statement, we asked *“meaning, you should deliver a project in smaller bits”?*

“...yes, even within the project, deliveries should be in smaller parts and more often rather than delivering everything at ones. In my opinion this is one key to success, otherwise you get stuck in the theoretical stages. Maybe you start with a wishing list regarding what kind of system one would like but in the end it turns out that such a system does not exist. Therefore it is better to focus on how an existing system works and through a learning process adopt and configure it to the client(s) demands. It is also important to focus on risk management and we do so by working more agile to stick to deadlines”

Question 6: In response to question six, interviewee D1 responded both yes and no to the application of theories. It is important that the work you do and tools you use are connected to something practical, which leads use to risk management and administrative work. New ways of working, such as agile has a hard time to fit into the old ways of doing ERP project, meaning that even newer theories would have a harder time to be brought in.

In response to this we responded that we have perceived theories to be quite glamorous, but also quite impractical, the response from interviewee D1 was:

"...precisely, and another thing. I have been a part of projects working more agile during the development, but at the same time, the client(s) expect the process to follow the waterfall method. They think that they have participated in a lot of workshops involving requirement specifications, but in agile methods you always do this and deliver prototypes before the end product is finished. When these two perspectives collide at the end of the project it creates confusion. To avoid this it is important to have consensus and work stricter after the project method, but sometimes one forgets to run through the method with the client(s) and assumes they understand it."

In response to this we asked a confirming question if it is common that you assume that the other party understands the project method.

"...exactly. Another thing is that we work quite a bit with outsourcing, offshoring, to India to reduce costs. And the problem/challenge remains the same, it is extremely hard to describe processes if the same method is not applied and in the case of agile development it demands that everyone is attending the workshop together. It may be cheaper to let someone in India do it, but do you get what you wanted? And did it really become cheaper in the end?"

As a final question we asked if any certain method was used for identifying project goals connected to benefits, the response was:

"...it depends on what you aim to achieve, a business case approach can be used, but it is all in the context of what type of goals you would like to identify/measure. There is no one size fits all solution to this."

Appendix 13 – Microsoft Sure Step Methodology



Figure 15 - Microsoft Sure Step Methodology