

Preface

This report was written between November 2013 and May 2014. The report is a part of a Master's Thesis conducted within the master *Supply Chain Management and Logistics and Production Economies*, at LTH.

Conducting this Thesis has been an instructive journey. We feel that we have gained insights in the subject of resistance to change that cannot only be used in ERP projects, but in all kinds of change projects. Change projects that we hopefully will conduct in our future professional careers.

First, we would like to thank Tacticus for initiating this Master's Thesis and giving us access to both their consultants and customers for interviews. It has also been great to be able to write the Thesis from their office when we have liked to. A special thanks to Bo Sanick, our supervisor at Tacticus. We also would like to thank Johan Lindskog and Fredrik Svensson at Tacticus for their willingness to give interviews.

Furthermore, we would like to thank all the interviewees that have been willing to give us an interview and explained thoroughly about their experiences on the subject.

Finally, we would like to thank our supervisor at LTH, Dag Näslund, for the feedback and support along the way.

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Abstract

- Title:** How could resistance to change be reduced in an ERP implementation project?
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- Background:** An Enterprise Resource Planning, ERP, system is an important part of a company and can create competitive advantages. Hence, the reasons for implementing an ERP system are several. However, the comprehensive nature of ERP systems results in complex implementation projects.
- Problem:** A large proportion of ERP implementations fail. Several different Critical Success Factors, CSFs, for ERP projects have been identified in previous research and softer aspects are some of the more important factors. Change management is a common topic among those softer factors. Within change management, resistance to change is a common topic but not a well researched one, which is why this Thesis has focused on this area.
- Purpose and objectives:** The main purpose of this Thesis is to contribute to a better understanding of the challenge of resistance to change in ERP implementation projects. This will be done through the development of a model on how resistance to change can be reduced in an ERP project.
- Research question:** How could resistance to change be reduced in an ERP implementation project?
- Method:** The main methods used in this report are a literature review and an interview study. An extensive search for articles and literature regarding ERP implementations, change management and resistance to change has been conducted. The material has been scrutinized to culminate into a solid theory base. Interviews have been conducted with project managers, project group members, process owners, end users, consultants and project sponsors of ERP projects. A qualitative approach has been used in this Thesis, which has enabled deeper

insights in the subject to be gained. However, since the approach is qualitative, the findings in this report are not statistically proven and need to be used accordingly.

Conclusions:

Ten tools for reducing resistance to change have been identified in this research, these are; *top management support, communication, training and education, involvement, encourage official and unofficial leaders, vision, milestones and targets, adjust expectations, management support* and *free up resources*. Each of the tools is explained in detail in this report. These ten tools make up a proactive model on how to reduce resistance to change during different phases of an ERP project and at different levels in the organization. Based on the interview study, a second model on how to reduce resistance to change was developed. Since several of the interviewed companies lacked a proactive approach to resistance to change, this model takes a reactive approach. This model takes the starting point in the individual's reasons for resistance to change, which are summarized in two reasons; *fear for the system and the change process* and *perceived net outcome not positive*. Appropriate tools to use to reduce resistance to change for each of the two main reasons have been identified among the ten tools presented above.

Keywords:

Enterprise Resource Planning System, ERP, ERP implementation, Change Management, User resistance, Resistance to change

Glossary of Terms and Abbreviations

Table 1. Abbreviations used in the report

Abbreviation	Description
ERP	Enterprise Resource Planning System
KSF	Key Success Factors
CSF	Critical Success Factors
ROI	Return On Investment
CRM	Customer Relationship Management
SME	Small and Medium Enterprises

Table 2. Terms used in the report

Term	Description
C-level	Chief Executive; CEO, CFO, etc.
Go live	Refers to the time when the new ERP system starts to be used in daily work

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1. Introduction

This first chapter will initially describe the background of this Master's Thesis. Then, the problem will be discussed and the research question will be presented. Further, the purpose and objective will be discussed. Also, the target company, Tacticus, will be presented. At the end the structure of this report will be shown.

1.1 Background

The first enterprise-wide ERP system was implemented in 1987 at Siemens in cooperation with the software company SAP. However, it was not until a couple of years later, in 1990, that the Gartner group coined the term Enterprise Resource Planning (ERP) system (Yu, 2005). Ever since, a large number of companies have implemented an ERP system (Madinios *et al.*, 2011). Large organizations were the first organizations to implement ERP systems (Ahmad & Cuenca, 2013). Already in 1999, an estimated 70% of the Fortune 1000 companies had implemented or started to implement an ERP system (Bingi *et al.*, 1999). During the 2000s an increasing number of small and medium sized enterprises (SMEs) also started to implement ERP systems. The SMEs had by then realized the benefits of ERP systems and decreased prices facilitated their adaption to ERP systems (Ahmad & Cuenca, 2013). In 2012, the world market for ERP system software was estimated to \$24.5 billion (Forbes, 2013).

An ERP system is an integrated enterprise-wide system (Beheshti, 2006; Hirt and Swanson, 1999; Davenport, 2004). Beheshti (2006, p.184) defines an ERP system as “*a set of business applications or modules, which links various business units of an organization such as financial, accounting, manufacturing, and human resources into a tightly integrated single system with a common platform for flow of information across the entire business*”. An ERP system supports the company in integrating and automating functions within the company such as procurement, distribution, inventory control and finance (Tarn *et al.*, 2002). Key business and management processes can also be integrated beyond a company's boundaries with an ERP system (Hitt *et al.*, 2002).

The reasons for implementing an ERP system are several. For successful ERP implementations, the benefits and advantages can be substantial. An ERP system can improve productivity and efficiency and thereby increase the competitiveness of the company (Beheshti, 2006; Davenport *et al.*, 2004). Shang and Seddon (2000) classify the benefits from an ERP implementation into five different groups; *operational benefits, managerial benefits, strategic benefits, IT infrastructure benefits* and *organizational benefits*. In general, both quantifiable benefits such as cost reduction (Shiau *et al.*, 2009) and less quantifiable benefits such as improved business innovations can be achieved (Wu, 2011).

However, the comprehensive nature of ERP systems results in complex implementation projects with various success rates (Peslak, 2006). The complexity and challenges of ERP implementation projects have resulted in a large amount of research covering ERP implementations. A slightly new angel of this research will be taken in this Thesis.

1.2 Problem discussion

A large proportion of all ERP implementations fail (Davenport *et al.*, 2004; Palanisamy *et al.*, 2010; Peslak, 2006; Plant and Willcocks, 2007). Some researchers report failure rates between 40-60% (Langenwalter, 2000). An ERP implementation could fail in many different ways such as delayed end time of the

project, higher total costs than expected, not achieving estimated benefits or not achieving determined return on investment, (ROI) (Davenport, 1998; Markus *et al.*, 2000). If failure is defined as not achieving all estimated benefits, the failure rate could be as high as 70% (Majed, 2000). A recent survey has shown that fully 60% of the respondents received under half of the expected benefits from their ERP implementations (Panorama consulting, 2013). If failure is defined as implementations that do not achieve the ROI determined in the initial planning stage, the failure rates can be in the range of 60-90% (Ptak, 2000). Independent of the definition of failure, an ERP system implementation faces a high risk of failure.

In a complex project like an ERP system implementation, several different factors can cause the project to fail. Wong *et al.* (2005) identifies 14 different critical failure factors (CFFs) and Hadi *et al.* (2011) describes 12 similar CFFs. They range from softer aspects as planning, involvement, communication and management to more technical aspects such as software system design and IT infrastructure. According to Wong *et al.* (2005), the technical aspects are not the most challenging in an ERP project. In addition, Dantes and Hasibuan's (2012) research show that several people and process aspects are more important than technical aspects for the success of an ERP project. Sumner (1999) states that many ERP implementations have failed due to lack of focus on the "soft issues", business processes and change management. According to Somers and Nelson (2004) and Al-Ghamdi (2013), change management is one of the most critical factors during several phases of an ERP implementation project.

A common topic within change management is resistance to change (Al-Ghamdi, 2013; Näslund, 2004; Aladwani, 2001; Zafar *et al.*, 2006). Zafar *et al.* (2006) conclude in their research that the usage of change management initiatives increases the user satisfaction and thereby reduces the negative impact of user resistance (*Ibid.*). "Even the very best system in the world will fail if end users do not believe in it" (Zafar *et al.*, 2006, p. 7). Shaul and Tauber (2012) identify managing user resistance as a critical success factor for an ERP project. However, a lack of research on how to reduce resistance to change in ERP implementation projects exists. Therefore, this Master's Thesis will focus on this question. The focus of this Master's Thesis is illustrated in Figure 1.

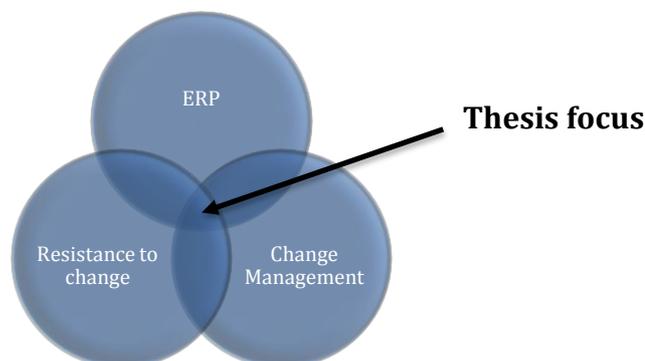


Figure 1. Focus of this Thesis

1.3 Purpose

The main purpose of this Thesis is to contribute to a better understanding of how to reduce resistance to change when implementing ERP systems. With a greater understanding of how resistance to change can be reduced, the target company, Tacticus, will be able to deliver greater value to their future clients. This will in the long run help Tacticus' customers to gain better benefits from their ERP implementations.

1.4 Objectives

The goal is to develop a model on how resistance to change, related to an ERP implementation, could be reduced. Since an ERP implementation project is complex and concerns all levels in the company, the model needs to be divided into smaller parts. The aim for the model is therefore to describe how resistance to change could be reduced at different levels in the company and in different phases of the implementation. Based on existing theory, an initial model will be created. This model will be further developed through empirical data in form of interviews. An illustration of the objective of this report can be seen in Figure 2.

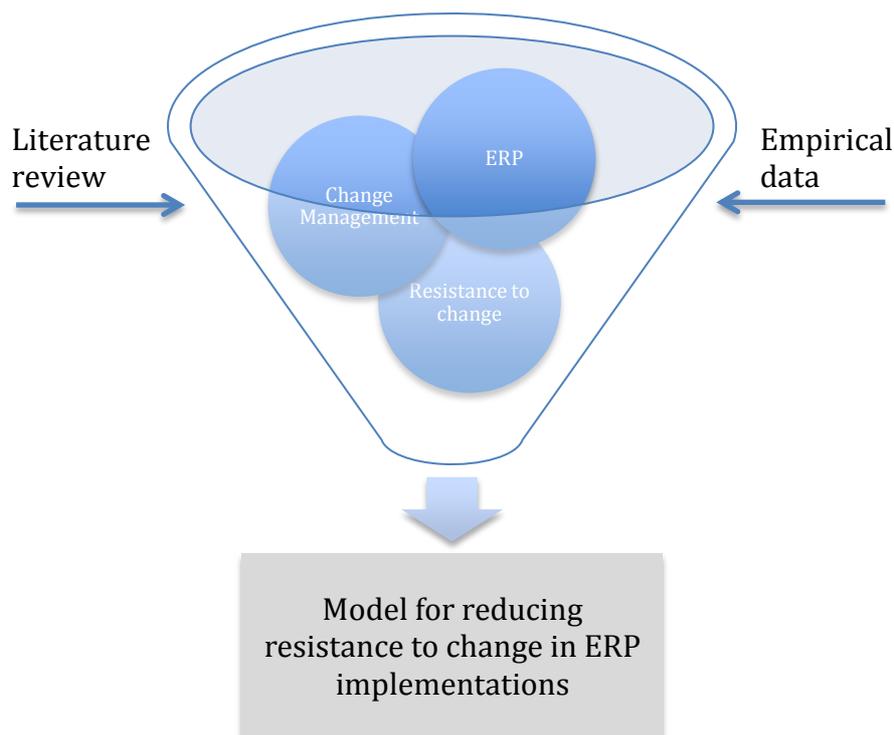


Figure 2. The objective of this report

1.5 Research question

To help address the purpose and goals of this report, a research question has been formulated:

Research question: How could resistance to change be reduced in an ERP implementation project?

1.6 Target group

This report is part of a Master's Thesis requested by Tacticus. Tacticus' business focus is consulting within ERP systems, business intelligence and decision support. The ERP systems they offer to help implement is mainly Microsoft Dynamics AX and Infor M3 (Movex). They also have process competence within finance, logistics, manufacturing and Customer Relationship Management (CRM). Tacticus works within several different industries with Sweden being their main market. Tacticus was founded in Malmö 2006 and has today over 60 employees with offices in Malmö, Göteborg, Halmstad and Stockholm (Tacticus, 2013).

The report is primarily intended for Tacticus, to be used in their work to develop their ERP implementation process. Secondly, it is directed to other companies that have implemented, will implement or are currently implementing an ERP system. Students and personnel at Lund University as well as other universities can also use this report since change management is applicable on several kinds of change projects and resistance to change occurs in many different projects.

1.7 Structure of the report

The outline of this report is as follows. In addition, a short briefing of the content of each chapter is provided in the headline of the chapter.

Chapter 1 – *Introduction*: In this chapter the overall background of this report is discussed. The reason to why the problem exists as well as the research question is also discussed. Additionally, the chapter provides the reader with the objective, purpose and target group of this report.

Chapter 2 – *Methodology*: In this chapter it is described how this Thesis is conducted. Further is the trustworthiness defined and discussed in the context of this report.

Chapter 3 – *Theoretical framework*: Here an extensive literature review is presented. The theory is divided into three main parts covering ERP systems, change management and resistance to change. The theory is then analyzed and condensed to a model, on how resistance to change could be reduced, presented in the end of the chapter.

Chapter 4 – *Empirical data*: Here the result from the interviews is provided.

Chapter 5 – *Analysis*: In this chapter the result from the empirical study is analyzed together with the theory from chapter 3.

Chapter 6 – *Conclusions*: Here conclusions are drawn from the analysis conducted in chapter 5.

References – All references used in this report can be found in this section. The references are divided into four main categories: *articles, books, websites* and *interviews*.

Appendix – Here the interview guides with corresponding questions can be found.

2. Methodology

In this chapter the methodology of this report will be described and discussed. It will also be described in a more detailed manner how this research was conducted. Trustworthiness will also be described and discussed in the context of this report.

The methodology is an important part of the Master's Thesis. Deciding on an appropriate methodology for the specific research question at hand is a necessity for a desirable outcome of the project (Holme *et al.*, 1997). In order to determine which methodology to be used, a mapping of which alternative methods exist will be done. Then, an appropriate method can be identified and motivated.

2.1 Reasoning

A factor to consider in the methodology is how conclusions are reached. There are three different ways to build up arguments and to reach a conclusion; *deductive, inductive and abductive reasoning*. They are all made up of the same components; rules, empirics and results, but the components come in different orders. Deductive reasoning means that the arguments start with accepted rules or laws, then empirical studies are taken into account and from this a result or conclusion can be drawn. One fact leads to another fact that leads to a conclusion. In inductive reasoning, you start with empirical studies, from this you get the results and finally the rules are determined. Abductive reasoning starts with the result, then the rules are applied and finally you verify this by empirical studies (Hörte, 2010). An illustration of the different ways of arguing can be seen in Figure 3.

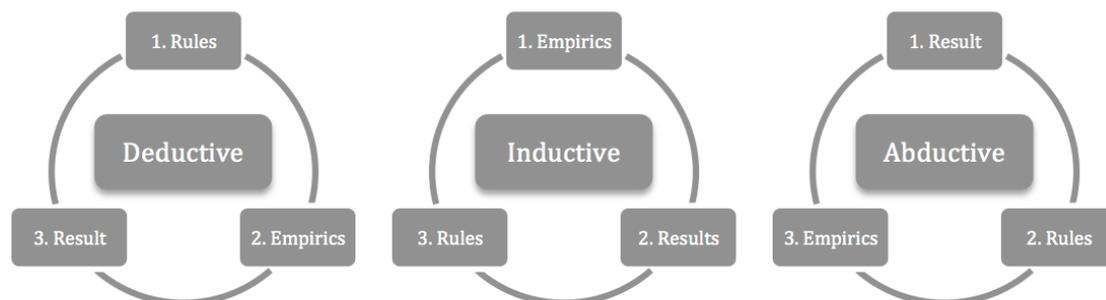


Figure 3. Flow of argumentation (Hörte, 2010)

Rules will not be identified and determined in this Thesis, which is why none of the three described methods for reasoning completely match the approach that will be used in this Thesis. Deductive reasoning is the approach most closely connected to the approach that will be used. This Thesis will take its origin in existing theory, apply empirical data and end up with the result.

2.2 Purpose

According to Höst, Regnell and Runeson (2006), a research paper can have four different kinds of purposes; *descriptive, exploratory, explanatory and problem solving*. The descriptive approach focuses on describing the area of research. The exploratory approach dives deeper into the area of research compared to the descriptive approach and seeks a better understanding of the area. The explanatory approach develops explanations on why the area of research works

as it does. Finally, the problem solving approach aims at finding a solution to a specific problem (Höst *et al.*, 2006).

The aim for this research is to describe how resistance to change in an ERP implementation project could be reduced. Since only a small amount of research have been conducted on the topic for this Thesis, this research has a descriptive purpose.

2.3. Research methods

This Master's Thesis has been conducted in three steps. First, a literature review was done on both relevant subjects in ERP implementations, change management and resistance to change. This gave an initial understanding of the problem and what research already has been conducted until today. Analysis of the literature review led to the model of how resistance to change could be reduced. Second, collection of empirical data covering the research question was conducted through interviews with people who are working or have been working with an ERP implementation. The purpose with the interviews was to further develop the initial model based on the literature review. The purpose was also to develop deeper insights into the challenge of resistance to change and how the tools can be used in reality. Both users of the new system as well as project leaders, managers and consultants have been interviewed. Finally, the insights from the empirical studies were analyzed and combined with the initial literature review, which lead to improvement of the first research model and the development of a second model.

A more detailed description of how each step of the research method has been conducted is provided below.

2.3.1 Literature review

A literature review is important to ensure trustworthiness in the research. It gives the researcher a solid understanding of the field of research. More importantly, it makes the researcher aware of how far the science has come today. This is important to avoid conducting the same research as research that has already been done and to assure a contribution to the knowledge within the field of research. A solid literature review also helps the researcher understand different aspects of the problem at hand and helps identify potential interesting approaches to the field of study (Denscombe, 2000).

The process of doing a thorough literature review contains of several steps; *keyword determination, search, selection, assessment* and *compilation*. These steps are preferably done in an iterative process (Höst *et al.*, 2006). The keywords that have been used when searching for literature in this report are; “ERP”, “enterprise resource planning”, “implementation”, “change management”, “change”, “resistance” and “resistance to change”. Different combinations of the mentioned keywords have been used. The result of the main combinations of keywords is shown in Table 3. For the literature search shown in Table 3, Lund University's online database search tool, LibHub (2013), has been used. Even though most of the materials found through LibHub (2013) are trustworthy, a

review has been made of the sources used in this report. Focus in this report has been on if the source has been reviewed, if the scientific journal where it is published is reliable and if the information is relevant in the context of this Thesis. These are important aspects according to Höst, Regnell and Runeson (2006).

Table 3. Search results for different keywords in title and abstract (number of articles)

(Number of articles)	Title	Abstract
ERP	17380	31587
Change Management	2003	5429
Resistance to change	1097	3929
ERP + Change Management	10	117
ERP + Resistance to change	1	11
ERP + Change Management + Resistance to change	1	2

Relevant articles from the extensive amount of literature covering the three main parts of this thesis, ERP implementations, change management and resistance to change, have been used as a base for the theory section. The search result (see Table 3) consisted of four relevant articles covering change management for ERP implementations and one article covering both change management for ERP implementations and resistance to change.

The sources used in this report are divided into three groups; *articles*, *textbooks* and *web pages*, all valid sources according to Höst, Regnell and Runeson (2006).

2.3.2 Empirical data

In order to add new knowledge to the field of research and to be able to answer the research question at hand, empirical data is valuable. There are two different kinds of empirical data, qualitative and quantitative data. The sources of information do not need to differ for the two types of data but what distinguishes them is the base for analysis. Qualitative data focuses on words as the base for analysis while quantitative data focuses on numbers. Either the gathered data is numerical from the beginning or the data is structured in a way that makes a transition from words to numbers possible in order for the data to be quantitative. The two types of data differ in more ways than the base of analysis. Qualitative research is associated with description, small-scale studies, a holistic perspective, influences from the researcher and an open design of the research. Quantitative research is associated with large-scale studies, a specific perspective, neutrality and a predetermined research design (Denscombe, 2000). A comparison of the two types of research can be seen in Figure 4.

Qualitative research	Quantitative research
<ul style="list-style-type: none"> • Small-scale studies • Holistic perspective • Influence from the researcher • Open design 	<ul style="list-style-type: none"> • Large-scale studies • Specific perspective • Neutrality • Predetermined design

Figure 4. A comparison between qualitative and quantitative research (Denscombe, 2000)

A qualitative approach has been used for this research for several reasons. First of all, “*how resistance to change could be reduced*” is hard to transform into quantitative numbers. Also, a holistic perspective was desired in order to be able to see the problem as a whole and identify relations between different factors without isolating some factors. Isolating factors would have been difficult to do in this research. Furthermore, since the research question is highly dependent on people, the researchers wanted to be flexible in the design of the research approach in order to be able to dive deeper into interesting relevant aspects as they arose along the way.

2.4 Interview study

One common way to conduct qualitative research is through an interview study. An interview study can be conducted in three steps. The first step is to collect the interview data. The second step is to summarize the interviews and present the empirics. The third and last step is to analyze the interview data (Nylén, 2005).

2.4.1 Interview data collection

Interviews can be structured, semi-structured or open ended. Structured interviews can also be called in person conducted surveys. Semi-structured interviews use a foundation of pre-formulated questions but it is possible to change the direction of the interview depending on what the interviewee tells. Open-ended interviews are highly dependent on the interviewee and the direction of the interview is not predetermined (Höst *et al.*, 2006).

The main foundation of insights in this report has been gained through semi-structured interviews. The interviewers were prepared with a set of questions (see Interview guides in Appendix) but flexible to adopt depending on the input from the interviewee.

Qualitative interviews

It has already been concluded above that a qualitative approach will be used in this report and therefore the interview study will also be qualitative. To do very structured and standardized interviews, which means that every interview is conducted in the same way, is less suitable for a qualitative approach (Widerberg, 2002). Qualitative interviews should use the unique direct conversation between the interviewer and the interviewee and the happenings in this context (*Ibid.*).

As concluded above, different types of interviews exist. However, independent of the type of interview, there are some main criteria an interviewer should take into consideration (Gillham, 2011):

- Leading questions should not be used, the interviewee should independently decide how to answer the questions.
- The relation between the interviewer and the interviewee should be responsive or interactive. This means that there is room for the interviewers to ask clarifying and deepening questions.
- Some kind of structure and purpose need to exist even if the context of the interview is in a naturally occurring every day setting.

As concluded above, semi-structured interviews will be used in this report, which also corresponds best to these criteria according to Gillham (2011).

Before the interview study

Preconceptions are something that always exist and means that something is judged beforehand. Therefore it is important in research to have this in mind (Gillham, 2011). The approach in the research needs to be open minded and the researchers need to think about the following (*Ibid.*):

- What do I expect to find?
- What do I want to find?
- What do I hope not to find?

One could be completely unaware about one's own preconceptions. Reports are often giving the feeling that the result is what the researcher wanted (Gillham, 2011). By being aware of those risks and putting aside any preconceptions, the risk of forcing the result in a specific direction is mitigated.

Distance interviews versus face to face interviews

Distance interviews are often used due to practicalities and time constraints. Gillham (2011) argues that the interaction in distance interviews is so limited that it should barely not be called an interview. One could think that people are more open and willing to tell things during distance interviews or when they are anonymous. However there are few specific evidences of this (Gillham, 2011). One study has even showed that people tell more in face to face interviews than in anonymous surveys (Nash and West, 1985).

Therefore all interviews in this study have been face to face and no distance interviews have been conducted.

Interviews in practice

Tacticus has provided contacts to some of their current and former customers that recently have implemented or are currently implementing an ERP system. These contacts have been a good starting point for the first interview at each

company and were in most cases someone from the project group. In the end of those interviews, contacts to other employees related to the ERP project were received. These persons were also interviewed to gain deeper insights. In total one to four persons at each company were interviewed. In order to get input from other companies than Tacticus' customers, interviews at a company not being a customer were conducted. Finally, consultants at Tacticus have been interviewed to get their opinions on resistance to change. In total, 14 interviews have been conducted with people from 7 different Swedish companies.

The interviewees have been divided into four main categories; strategic level, tactical level, operational level and consultants. At the strategic level, two top managers have been interviewed. At the tactical level, six interviews have been conducted with project managers, project leaders and operations managers. The operational level consists of three interviews with five different end users, such as operators and team leaders. The last category covers interviews with two consultants at Tacticus.

All interviews have been done in person, either at the company's office or at Tacticus' office. The interviews have been one hour long with some exceptions when the interviews lasted for 45 minutes. Both authors have been present at all of the interviews to increase the reliability of the information gathered. One of the authors has taken the lead of the interview and one has been responsible for taking notes and interposing supplementary questions. Also, the interviews have been recorded for deeper analysis of the material after the interview.

Interview questions

The first step when developing interview questions is to consolidate a list of possible questions (Gillham, 2011). The list should then be organized by bringing together and group questions that relate to the same subtopic. According to Trost (2009), the interview guide can be developed over time but must have the same main logic. The questions do not need to be asked in the same order for each interview but the interviewers can adapt to the interviewee depending on what the interviewee answers (*Ibid.*).

Before the interview questions were developed, the literature review was conducted and the research model was developed. Also, the eleven tools being part of this initial model were identified.

The development of interview questions started with a consolidation of a list of possible questions. The questions have specifically been formulated to be able to develop the research model. Then most of the questions were categorized under the eleven different tools. These questions are referred to as the explicit questions. Also, general questions covering different aspects of an ERP project and resistance to change but not connected to a specific tool were formulated. These questions are referred to as the general questions.

In this research two different interview guides have been developed to fit different types of interviewees. The first one was directed to people on a

strategic and tactical level, people that often have had a relatively active role in an ERP project. The second interview guide was directed to people on the operational level that have had a more passive role in an ERP project. The actual questions used are provided in the interview guides (see Appendix).

The interview guides are divided into three main parts; *introduction*, *general questions* and *explicit questions*. The purpose of the general questions was to get information about if resistance to change had occurred and how the company had managed it. If there was a lack of resistance to change, the purpose was to investigate why and how the company had worked to achieve this state. During the general question part, some of the explicit questions were answered. The result of this was that not all questions in the interview guides were asked specifically during each interview.

Due to the fact that semi-structured interviews were used, the interview guides needed to contain questions on all tools since it was not known beforehand, which tools would be covered in the general questions part. All the interviews were therefore executed in slightly different ways depending on the result of the ERP project, how the interviewee had perceived resistance to change and how the company had worked with resistance to change. However, independent of the result of the ERP project, most of the tools presented in the research model were covered in each interview.

2.4.2 Empirical presentation and analysis of interview data

The summary of the interview material can be conducted continuously during the empirical phase of a project, after the interview phase, or even during the actual interviews (Kvale, 1996). Since every interview in this study has been recorded, the summary has been done after the interviews.

Every interview has been listened to and the questions and answers have been written down in an ongoing text. As Trost (2009) suggests, the parts of the interviews that were not essential for the purpose of the report have been excluded. The next step was to process the interview material. Since semi-structured interviews were conducted the material also needed to be rearranged in order to fit the structure of the interview guides. This is also suggested by Trost (2009). The main interesting findings from each interview have then been summarized and presented in chapter 4. Each interview is categorized under the same tools being part of the research model. Because of this categorization the structure is clear and therefore easier to analyze (Trost, 2009).

The final part of the interview study is to further analyze the material. This has been done in chapter 5. A common way to analyze qualitative data is to code the material when it has been transformed into text format. Coding means that the material is divided into different groups. Those groups are determined by different key words identified in the material. When this is done it is much easier to see connections between the answers from different interviewees (Trost, 2009).

This was naturally done in this research since the approach from the beginning was already divided into different tools determined from theory and described in the research model. Topics discussed during the interviews that did not fit under any tool from the research model but still were interesting for this research have been placed under the section named “resistance to change” or “other”. The aim was to see connections between how different interviewees have answered questions covering the same tool and by that gain deeper insights.

2.5 Trustworthiness

The aim should always be to accomplish as high trustworthiness of a research report as possible (Björklund and Paulsson, 2012). In this section the term trustworthiness will first be explained. Then will the trustworthiness of this report be discussed from the definition’s point of view. Three different measurements add up to a report’s trustworthiness; *validity*, *reliability* and *objectivity* (Björklund and Paulsson, 2012).

2.5.1 Validity

Validity regards how well the phenomenon that is measured match what was intended to be measured. The validity of the report can be increased by several different means, by seeing the problem from different point of views and by triangulation. There are three different kinds of triangulation (Björklund and Paulsson, 2012):

- *Data triangulation* – Several different sources of data are being used
- *Theoretical triangulation* – Different theories are being applied to the same set of data
- *Evaluator triangulation* – Different evaluators of the material are being used

This report has high validity since the key aspect, resistance to change in ERP projects, have been in focus from the beginning until the end. Also the conclusions presented in chapter 6 matches the purpose and research question presented in chapter 1.

The validity of this research has also been assured by the use of data triangulation, several different data sources have been used. The literature review has taken a proper number of different articles and books into account. Also, several interviews have been conducted to increase the validity of the empirical data. Theoretical triangulation has been used as far as possible for the research question. Different change management models have been explored and connected to the empirical data gathered in this report. Also, evaluator triangulation has been used to a small extent by having two authors of this report.

2.5.2 Reliability

Reliability is a measure of the accuracy of the data gathered in the report. It is also a measure of the probability of getting the same answers if the project was

to be done in a similar setting again. Using control questions in the interviews to make sure that you have understood the answers correctly is one way to increase the reliability. Also, using triangulation, described in the validity section, is another way to increase the reliability (Björklund and Paulsson, 2012).

During the interviews several follow up questions have been formulated to make sure that the interviewers have understood the interviewee correctly. After the interviews the material has been listened to and written down in an ongoing text. This has been done to make sure that the material presented in chapter 4 matches what the interviewees told during the interviews and that no comments have been taken out of its context. An aspect to keep in mind is that this research has taken a qualitative approach and hence, the result is not guaranteed to be reached again if a similar research was conducted. This aspect is discussed in the future research section in the end of chapter 6.

2.5.3 Objectivity

Objectivity regards how objective a report is. By stating sources well and presenting data in an objective way, the reader is given the possibility to form his or her own opinion about the subject. It is important to keep the following three points in mind in order to present data and information in an objective way (Björklund and Paulsson, 2012):

- No factual inaccuracies
- No distorted facts, meaning that if there is two contradicting arguments to a topic, both of them are presented and not just one of them
- Avoiding letting the authors' personal opinions about things appear in the report by avoiding emotive formulations

Depending on which epistemology you believe in, the way you view science, objectivity is harder or easier to attain. Two epistemological views are positivism and non-positivism. A positivist creates knowledge by verifying or falsifying hypothesis. The results are completely objective and no matter who conducts the research, the result will be exactly the same, given that the research is done in the same way. A positivist's main goal is to understand how things work. A non-positivist does not rely on being able to verify or falsify hypothesis as the only source for creating knowledge. The non-positivist believes that the observer cannot be distinguished from the observed phenomenon. Even though objectivity is the goal also for a non-positivist, the non-positivist believes that complete objectivity is hard to attain. The non-positivist seeks to understand why things work as they do and wants to look at the whole context of the researched phenomenon (*Ibid.*).

For the context of this research topic, the authors believe in a more non-positivistic view of knowledge creation. Anyhow, attaining objectivity has been important for this Thesis. Sources are well stated and selected in order to improve the objectivity of this report.

3. Theoretical framework

This chapter will describe the theory used in this report and can be seen as a literature review. The theory for this Thesis is threefold and thereby divided into three main parts. The first one is about ERP implementations, the second covers change management and the last part handles resistance to change.

3.1 Enterprise Resource Planning system - ERP

Since an ERP system is central for the context of this Thesis, a deeper description of an ERP system will be made in this section. Also, benefits of an ERP implementation will be provided. Furthermore will the dimensions of the research model be explored.

3.1.1 Definition of ERP

An Enterprise Resource Planning (ERP) system is an integrated enterprise-wide system (Beheshti, 2006; Hirt and Swanson, 1999; Davenport, 2004). Analysts at the Gartner Group coined the term “ERP”. Their initial definition was that an ERP system is a system used to model and automate many of the basic processes of a company. The goal for the ERP system is to integrate information across the company, between all departments, from finance to the shop floor. Further, an ERP system eliminates complex and expensive links between different computer systems that were not designed or meant to communicate with each other (Hirt and Swanson, 1999).

The following definitions of ERP systems states more of the involved parts of the business:

“An ERP system is a set of business applications or modules, which links various business units of an organization such as financial, accounting, manufacturing, and human resources into a tightly integrated single system with a common platform for flow of information across the entire business.”

(Beheshti, 2006, p.184)

“Enterprise resource planning (ERP), when successfully implemented, links all areas of a company including order management, manufacturing, human resources, financial systems, and distribution with external suppliers and customers into a tightly integrated system with shared data and visibility”

(Chen, 2001, p.374)

Other denotations used for ERP systems are Enterprise Systems (ES) (Davenport, 2004) and Enterprise System Software (ESS) (Shang and Seddon, 2002). Some analysts and journalists use denotations as “enterprise commerce management” and ERP II (Parker, 2001; Bond *et al.*, 2000). However, throughout this report, the notation ERP will be used.

Today, the notion of ERP has greatly expanded, mainly due to the use of Internet. ERP is now more than information sharing, it includes processes like customer relationship management, performance management, planning, analysis and product development (Davenport, 2004). The use of Internet also allows companies to connect their internal business process with their customers’ and suppliers’ systems (Beheshti, 2006). ERP systems can thereby be used to plan

and schedule the suppliers' resources as well as to create value for the customers (Chen, 2001). Figure 5 shows the overall picture of an ERP system, including the flow of information through the whole chain, from the suppliers to the customers.

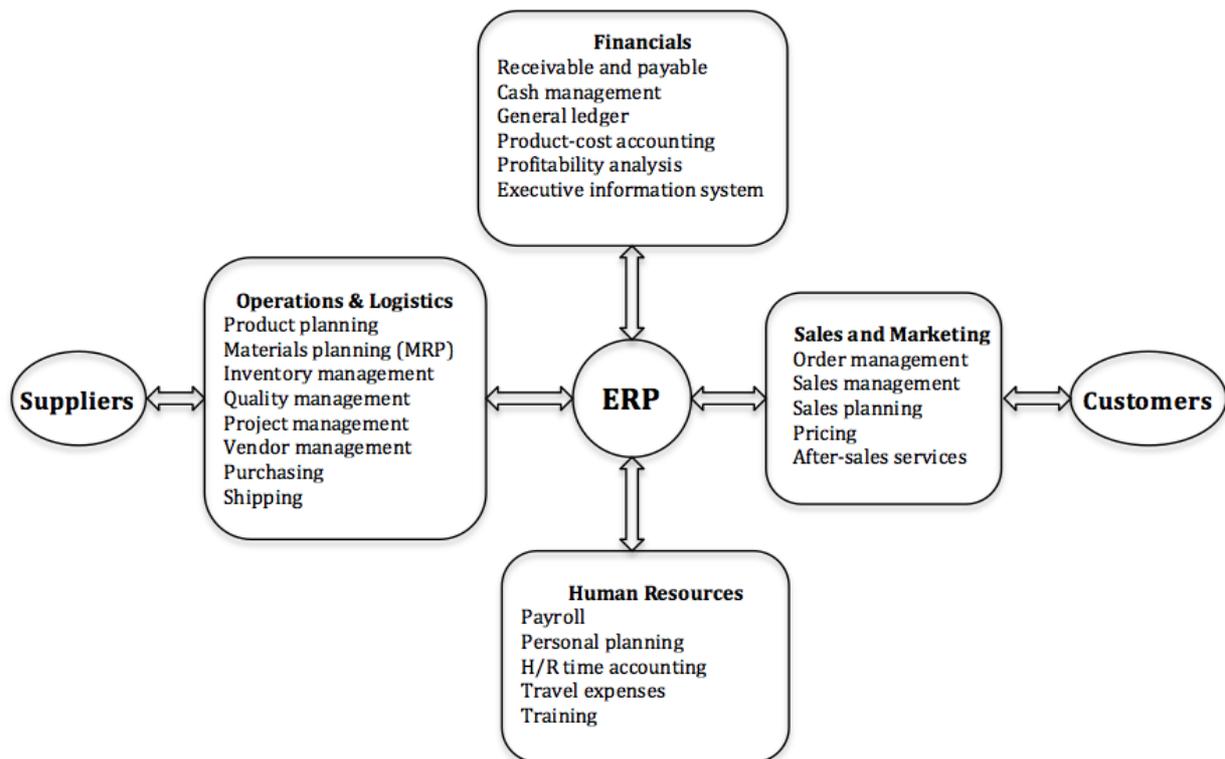


Figure 5. The overall picture of an ERP system (Chen, 2001)

3.1.2 Benefits of ERP systems

The reasons for implementing an ERP system are several. Successful ERP implementations can improve the productivity and efficiency and thereby increase the competitiveness of a company (Beheshti, 2006; Davenport *et al.*, 2004). Shang and Seddon (2000) classify the benefits from an ERP implementation into five different groups:

Operational benefits – Benefits related to operational procedures, cycle time reduction, cost reduction, quality improvement and customer services improvement.

Managerial benefits – Informational benefits that help the organization to achieve better resource management, improved decision-making and planning and improved performance.

Strategic benefits – These benefits are vaguer and are an extension of Porter's model for achieving business competitive advantages with cost leadership, differentiation or focus. The benefits are support for business growth, business alliance, help to build business innovations and cost leadership, generation of product differentiation and establishment of external linkages to customers and suppliers.

IT infrastructure benefits – ERP systems can provide business flexibility for current and future changes, cost reduction of the total IT costs and increased capability of the IT infrastructure.

Organizational benefits – In addition, an ERP system can support organizational changes, facilitate business learning, provide empowerment and build common visions.

3.1.3 ERP implementation life cycle

A general project consists of different phases, independent of if the project team knows about them and works active with them or not. Further, independent of how an ERP implementation is conducted, in a big bang or in a phased approach, different stages in the life cycle of the implementation exists.

ERP implementation phases

Several researchers have described the phases of an ERP implementation in different ways. The implementation life cycle of an ERP system can, from a macro perspective, be divided into three main segments; pre implementation, implementation and post implementation (Capaldo and Rippa, 2009). Each segment can then be divided into different sub-segments. The perspective on these sub-segments differs a lot between different researchers. Table 4 shows a summary, based on previous research.

3. Theoretical framework

Table 4. Implementation stages in previous research (Dantes and Hasibuan, 2012)

Literature	Pre implementation	Implementation	Post implementation
Esteves & Pastor (1999)	(1) Adoption Stage (2) Acquisition Stage	(3) Implementation Stage	(4) Use & Maintenance Stage (5) Evolution Stage (6) Retirement Stage
Markus & Tanis (2000)	(1) Chartering Stage	(2) Project Stage	(3) Shakedown Stage (4) Onward & Upward Stage
Ross & Vitale (2000)	(1) Design Stage	(2) Implementation Stage	(3) Stabilization Stage (4) Continuous Improvement Stage (5) Transformation Stage
Shanks, Parr, Hu, Corbitt, Thanasankit & Seddon (2000)	(1) Planning Stage	(2) Implementation Stage	(3) Stabilization Stage (4) Improvement Stage
Parr & Shanks (2000)	(1) Planning Stage	(2) Project Stage	(3) Enhancement Stage
Somers & Nelson (2004)	(1) Initiation Stage (2) Adoption Stage	(3) Adaption Stage	(4) Acceptance Stage (5) Routinization Stage (6) Infusion Stage
Peslak, Subramanian & Clayton (2007)	(1) Planning Stage	(2) Transition Stage (3) Performance Stage	(4) Enhancement Stage

Somers and Nelson (2004) have investigated how important 22 different key players and activities are for an ERP implementation during six stages of an ERP project. These stages are; *initiation, adoption, adaption, acceptance, routinization* and *infusion*. Resistance to change is not included as a factor in their research. However, change management is and resistance to change is closely connected to resistance to change. Somers and Nelson (2004) conclude that during the adoption and adaption stage, change management is the most important factor and for the acceptance stage the third most important factor. For the three other stages, change management is ranked much lower compared to the other factors (Somers and Nelson, 2004). The model in this report will therefore focus on the adoption, adaption and acceptance stage.

Phases used in the research model

Somers and Nelson's six stages are based on a stage model initially developed by Zmud and Apple (1989). The stage model is a variation from Kwon and Zmud's model (1987), which had its origin in Lewin's (1952) change model.

As seen in Table 4, adoption is placed under the pre implementation phase, adaption is placed under the implementation phase and acceptance is placed under the post implementation phase. For simplicity during interviews, the terms pre implementation, implementation and post implementation will be used but with the definitions of adoption, adaption and acceptance.

Pre implementation phase – In this phase rational and political negotiations should ensure organizational support for the implementation. The decision on whether or not to invest in resources necessary for implementing the new system is also taken in this phase. This phase ends when the decision about

which ERP system to be implemented is made (Cooper and Zmud, 1990).

Implementation phase – This phase takes place when the system is developed, installed, maintained and up and running. The organizational procedures are updated and the users are trained to use the new procedures and the new system. This phase ends at the go live date (*Ibid.*).

Post implementation phase – This is when the people in the organization accept the system, when they commit to the usage. The system begins to be used in the organizational work. This phase starts at the go live date and ends when the ERP implementation project is considered as done and goes over in a continuous improvement phase along everyday work (*Ibid.*).

3.1.4 Different levels of an ERP implementation

Resistance to change can occur at different levels in the company during an ERP implementation project. The resistance can occur at the strategic level, tactical level and operational level (Shore, 2005). In order to define these levels the Oxford Dictionaries' (2013) definition of the words strategic, tactical and operational will be presented:

Strategic:

“relating to the identification of long-term or overall aims and interests and the means of achieving them”

Tactical:

“showing adroit planning; aiming at an end beyond the immediate action”

Operational:

“relating to the routine functioning and activities of an organization”

The definition of operational is more hands on and easier to distinguish than the other two. The phrase *“long-term”* is quite vague. In order to clarify, these levels will be presented and defined in more detail below:

- *Strategic level* – Relates to a long-term planning horizon, most often more than a year, even two or five to ten years is possible. This is high level and here are the business' vision, mission and values decided and created (Althoff, Feldmann and Müller, 2001). These decisions are vague and not detailed (*Ibid.*). The people taking decisions on the strategic level are top management, at C-level.
- *Tactical level* – At this level the plans on how to achieve the ambitions decided on the strategic level are created. These plans are more concrete than at the strategic level (*Ibid.*). The range is shorter, less than a year. The people taking decisions on the tactical level are mid-level managers.

- *Operational level* – This is the detailed day-to-day running of a company at the lowest level in the organization (Shang and Shaddon, 2002). It is about executing the plans created at the tactical level. The execution is done by operative managers, team leaders and end users.

3.1.5 The dimensions of the research model

Change management is more important in three specific phases of an ERP implementation project (Somers and Nelson, 2004). The authors of this report use the terms *pre implementation*, *implementation* and *post implementation* for these phases. Resistance to change can occur at the *strategic*, *tactical* and *operational level* of a company (Shore, 2005). The dimensions of the research model are thereby defined and below is the model presented (see Figure 6).

	Pre implementation	Implementation	Post implementation
Strategic level			
Tactical level			
Operational level			

Figure 6. The dimensions of the research model

3.2 Change Management

Change management factors are concluded in the problem discussion to be important factors for a successful ERP implementation. Näslund (2004) concludes that it is important to address how to handle change already in the planning phase of an ERP implementation project, in the pre implementation phase, in order to prepare the organization for the implementation phase. Näslund (2004) also concludes that acknowledging the need for change management at all management levels in the organization can be crucial for the success of the project. The importance of change management throughout the whole project, in all phases, has also in previous research been proven to be a CSF for a successful ERP implementation (Esteves and Pastor, 2000; Falkowski *et al.*, 1988; Peslak *et al.*, 2007). One goal with the change management activities is

to get acceptance from the users and reach a readiness within the organization for the new system (Esteves and Pastor, 2000).

An ERP implementation project results in several different changes, which is why change management is needed. Both change in technology, change in work tasks and change in organizational structure can be the result of an ERP project. The people in the organization and to some extent also its stakeholders are influenced by the changes a change of ERP system creates (Naslund, 2004).

From the research of Zafar *et al.* (2006) and from Shaul and Tauber (2012) it is clear that change management initiatives are ways to reduce resistance to change. Therefore, general change management theories will be presented in this section. For this Thesis, the focus will be on gaining insights from change management theory to find tools that can help to reduce resistance to change in ERP implementation projects.

3.2.1 Definition of change management

Before going into detailed theory in change management, a general understanding of the concept needs to be developed. According to Oxford dictionaries (2013), change management is defined as:

“the management of change and development within a business or similar organization”

(Oxford dictionaries, 2013)

More specific definitions read as follows:

“Change management (..) refers to a set of basic tools or structures intended to keep any change effort under control. The goal is often to minimize the distractions and impacts of the change.”

(Kotter, 2011)

“Change management is a set of tools, processes and activities that change the organizational setup from the current state to the expected future state.”

(Al-Ghamdi, 2013, p. 38)

Figure 7 illustrates how change management comes into play. In this case, the current phase is the soon to be legacy system, the transition is the implementation of the new ERP system and the future state is the new ERP system implemented with the new processes and organization in place. Project management plans the project, decides upon what changes need to be made and carries out the project. Change management refers to tools and techniques for managing the “soft factors” and the people-side of the change. Choosing appropriate change management methods on how to handle the changes related to the project enables the project to be carried out in the smoothest possible way with the highest potential outcome (Creasey, 2010).

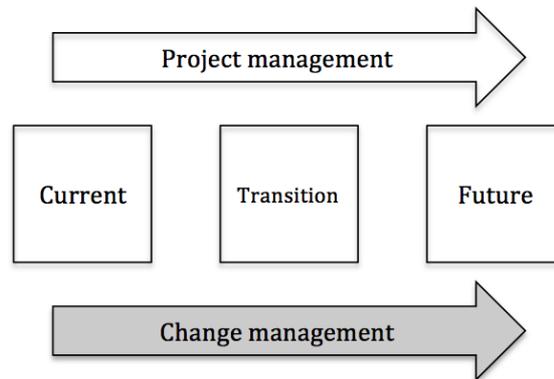


Figure 7. Two aspects of change in an organization (Creasey, 2010)

3.2.2 The nature of change

Paton and McCalman (2008) define the complexity of implementing a change as dependent on the amount of technological contra human interaction with the change (see Figure 8). A component upgrade can be seen as mainly a technological, mechanistic change if processes are not influenced, and is in that case less complex (Paton and McCalman, 2008). However, a new ERP system is going to be used by people and hence the change is much more complex.

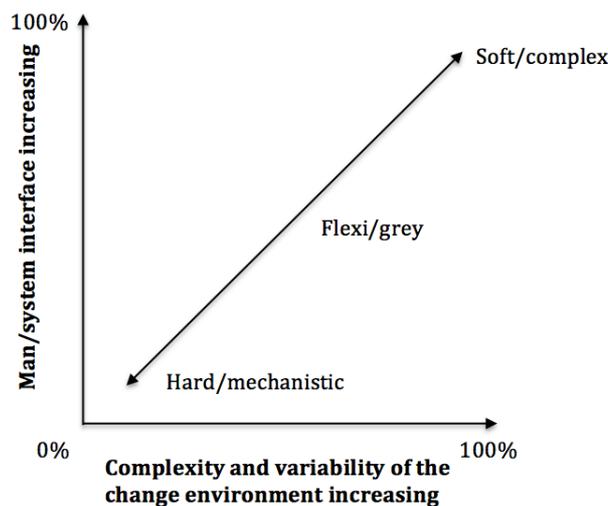


Figure 8. Technological/human interaction as a function of complexity of implementing a change (Paton and McCalman, 2008)

Another way of illustrating the complexity of change is by a force field diagram, developed by Kurt Lewin in 1947 (see Figure 9). The outcome of a change event is the result of a struggle between two competing forces, the driving forces trying to upset the status quo and the restraining forces trying to maintain the status quo. By increasing the driving forces and decreasing the restraining forces, the change can be more easily attained. Preferably, the restraining forces are decreased before the driving forces are increased (Pojasek, 2001).

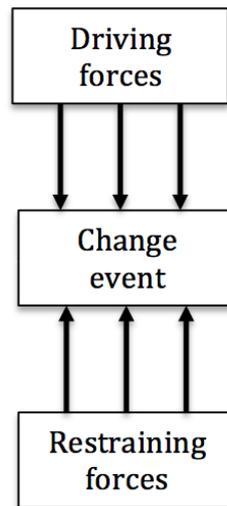


Figure 9. Force field diagram (Paton and McCalman, 2008)

3.2.3 Change management models

Several different change management models exist. Cameron and Green (2012) describe nine different models for managing change and assess each model's strengths and weaknesses. Two models are of extra interest for the context of this Thesis and will be presented below. The aim is to identify tools that can help reduce resistance to change in those models.

Kotter, 8-step model

According to Kotter (1995) any change process consists of different phases, all which are important for a desired outcome. Skipping a phase or rushing through a phase only creates a short illusion of progress before the cost of not properly addressing each phase presents itself. Problems with reaching expected results or change processes taking more time at a later phase than necessary are examples of these possible costs (*Ibid.*). Kotter (1995) developed an 8-step model for handling change:

1. *Establishing a sense of urgency*
This step is much harder to accomplish than one can initially think. Establishing the belief in the organization that the change is needed is crucial to motivate people to change. Many managers' responsibility is to keep the current system running and to minimize risk. Without any understanding of the need for change, those people will likely be resistant to the change (*Ibid.*).
2. *Forming a powerful guiding coalition*
In order to realize persisting results and be able to accomplish the change, the composition of the group leading the change is important. The number of people needs to be sufficient and the leadership skills in the group need to be appropriate. Also, it is important that the most senior management is part of this group (*Ibid.*).

3. *Creating a vision*

A clear vision of the end state of the change process is important to develop in order to accomplish a successful transformation. This vision should be developed by the guiding coalition established in step 2 and then clearly communicated to the organization. A well-communicated vision helps to motivate the people that will be affected by the change (*Ibid.*).

4. *Communicating the vision*

To really incorporate the vision and the need for change takes a lot of time and effort. Top management addressing the vision and the proposed change at a few organizational meetings is not closely sufficient. All the company's communication channels need to be used in order to really incorporate the new vision. Important to remember is that communication consists of both words and deeds. Inconsistent behavior with the vision, by important individuals, can affect a large group of people and undermine the change process (*Ibid.*).

5. *Empowering others to act on the vision*

When the change process is started, people outside the guiding coalition will be willing to lead and drive the change. It is important to encourage those individuals and empower them to be able to help carry through the change. It is equally important to remove obstacles working against the change. Those obstacles can both be organizational structures, inconsistent compensation systems with the future desired state or people working against the change. Those people working against the change, especially if they are managers, need to be managed in order to not jeopardize the whole project (*Ibid.*).

6. *Planning for and creating short-term wins*

Even the most driving and motivated people for the change can lose interest and enthusiasm if no results present themselves. To mitigate this risk of losing momentum, it is important to not hope for short term wins but to create short term wins. Managers should actively seek for short term improvements and communicate and reward the people accomplishing those improvements. The reward can be recognition, promotions or even money (*Ibid.*).

7. *Consolidating improvements and producing still more change*

Celebrating short term wins are important but declaring the whole project completed too early can be devastating for the long term impact of the change. The saying that old habits die hard also applies to change projects. If the new processes are not continuously emphasized and improved, the risk of slipping back to old patterns is high. It is often both promoters and resisters to the project that celebrate when the project is declared completed. The promoters are happy for the accomplishment and the resisters are happy for the change period to be over. The results

of the change need to be monitored over long time after the project is completed in order to not allow resistors to fall back into old work patterns and processes (Kotter, 1995).

8. Institutionalizing new approaches

It is not until the change is seen among the employees as: “*this is how we do things around here*”, that the new status quo is fully incorporated. Also, when accomplishing this stage it is important to communicate the improvements and to recognize the people involved in the change to keep motivation levels high (*Ibid.*).

Beckhard and Harris, change formula

Another relevant model for this Thesis is Beckhard and Harris’ change formula, developed from the original work of David Gelicher. The change formula reads as follows:

$$C = [ABD] > X \quad (1)$$

C = Change

A = Level of dissatisfaction with the status quo

B = Desirability of the proposed change or end state

D = Practicality of the change (minimal risk and disruption)

X = “Cost” of changing

The formula can be seen from the person’s point of view that is supposed to change. This person’s experienced level of dissatisfaction of the current system, the desirability of the new system and the practicalities of the change must outweigh the perceived effort needed to change in order for that individual to not develop resistance to the change (Beckhard and Harris, 1977). One variant of the model includes multiplication signs between A, B and D (see Formula 2).

$$C = [A * B * C] > X \quad (2)$$

This variant of the model implies that even if only one of these three parameters has a perceived value close to zero, the person will develop resistance to change.

This model can be used by managers at any time during a change project to help identify areas needed to be addressed in order to decrease resistance to change within the organization. For example, if the end state is not desired, the benefits with that state needs to be communicated to increase the willingness to change (Cameron and Green, 2012).

3.2.4 Analysis of the change management models

Beckhard and Harris’ change formula is the model most directly related to resistance to change between the two models presented above. However, several of the eight steps in Kotter’s 8-step model are connected to the three variables in Beckhard and Harris’ change formula. These steps can be seen as potential tools to help reduce resistance to change. Step 1, *establishing a sense of urgency*, is one

way to increase the level of dissatisfaction with the current state. Step 3 and 4, *formulating and communicating the vision of the end state*, are ways to increase the desirability of the future state. Step 2, 5 and 6, *forming a powerful guiding coalition, empowering others to act on the vision and planning for and creating short-term wins*, can be seen as ways to improve the practicalities of the change. In other words, by following Kotter's 8-step model, the individuals' perceived willingness to change will increase and the risk of developing resistance to change will be lower.

Furthermore, Kotter's step 5, *empowering others to act on the vision*, is consistent with the force field diagram presented in the beginning of the change management section. It is important to reduce the restraining forces, the resistance to the change, for a change process to be successful.

3.3 Resistance to change

Several articles about change management connected to ERP projects, addresses in some way or the other the phenomenon of resistance to change (Al-Ghamdi, 2013; Näslund, 2004; Aladwani, 2001; Zafar et al., 2006). How a company handles resistance to change has also been mentioned as a critical success factor for an ERP implementation project (Shaul and Tauber, 2012). The phenomenon of resistance to change will be further explored in this section.

3.3.1 Definition of resistance to change

Kurt Lewin introduced the concept of resistance to change. However, the meaning of the concept today is inconsistent with Lewin's original theories (Dent and Goldberg, 1999). Lewin conceptualized resistance as part of his force-field diagram described in the beginning of the change management section above (see Figure 9). Oxford dictionaries, (2013), define resistance as "*the refusal to accept or comply with something*". According to Lientz and Rea (2003, p. 33), resistance "*is the active or passive opposition to change and the management of change*". Another definition of resistance to change is "*any conduct that serves to maintain the status quo in the face of pressure to alter the status quo*" (Zaltman and Duncan, 1977, p. 63).

3.3.2 Different types of resistance to change

Lientz and Rea (2003) categorize different types of resistance to change in two dimensions, active versus passive and open versus underground resistance. This categorization can be seen in Figure 10.

Active	xyz	abc
Passive	def	ghi
	Open	Underground

Figure 10. Categorization of resistance (Lientz and Rea, 2003)

Employees who openly question changes and express a lack of support are actively resistant to the change. Employees who appear to be on board but carry unspoken resistance are passively resistant to the change. The open versus underground dimension reflects how openly in the organization the employee expresses her thoughts (Lientz and Rea, 2003).

Nesterkin (2013) have through a literature review identified four common formulations or aspects of resistance, these are:

- *Distrust* – “I don’t like it” or “ I don’t believe it” reactions
- *Doubt* – The individual is not resistant to change in itself but is disagreeing with this particular change
- *Inertia* – The individual is passively avoiding any actions towards changing the status quo
- *Reactance* – The individual is motivated to regain his or her independency or freedom in the work

3.3.3 Different signs of resistance to change

Lientz and Rea (2003) have also identified four signs of resistance to change, *tone of voice, body language, what employees discuss in the presence of the change leader and what the employees discuss during their breaks and lunchtime*. These signs are important to notice in order to address resistance at an early stage (Lientz and Rea, 2003).

Tone of voice – the employees’ reactions to presentations about the planned changes can give information on their opinions about the change or potential resistance to the change (*Ibid.*).

Body language – the body language can tell a lot about what the employees think about the changes (*Ibid.*).

What employees discusses with the project team – a direct source of information about what the employees think about the change (*Ibid.*).

What employees discuss during their breaks and lunchtime – as discussed above regarding types of resistance, what the employees say directly to the project team may not be the same as what they discuss with each other (*Ibid.*).

3.3.4 Critics to the concept resistance to change

Some researchers argue that the term resistance to change and what it has come to mean is outdated and needs to be developed. Dent and Goldberg (1999) argues that people do not resist change by itself but they resist the potential implications that the change may lead to, for example loss of status, loss of pay or loss of comfort. It is often the choice between the organization's interest and the individual's self interest that ends up in a resistance to the proposed change (Dent and Goldberg, 1999).

Oreg (2006) argues that a distinction between the change process and the change outcome needs to be made. Some people may be resistant to the change process, some to the change outcome and some to both of them (Oreg, 2006). The practical meaning of resistance to change and also most of the research done on the topic focus on the person's point of view that is imposing the change. Change recipients that do not comply with the change are viewed as obstacles that need to be handled (Ford, Ford and D'amelio, 2008). Ford, Ford and D'amelio (2008) means that this one-sided picture of resistance to change needs to be developed.

The term "*resistance to change*" is argued to be laden with preconceived assumptions and the term "*response to change*" is proposed to substitute this term (Piderit, 2000). Further, Oreg (2006) and Piderit (2000) argue that resistance is more complex than a lot of researches tend to imply and a multidimensional approach needs to be taken. A tripartite model is introduced by Oreg (2006) and Piderit (2000) containing a cognitive, affective and behavioral dimension of resistance to change. The cognitive component consist of what the person think about the change, the affective component includes the feelings about the change and the behavioral component consists of the person's actions or intended actions in response to the change (Oreg, 2006).

3.3.5 Reasons to resistance to change

Several different reasons or factors behind resistance to change exist. Some factors focus on the outcome of the change and some factors on the change process itself. If the change is perceived as beneficial or detrimental to the individual can be seen as rational factors to resistance to change. Some of those factors are *power and prestige, job security and intrinsic rewards* (Oreg, 2006).

Power and prestige – Organizational changes can influence the power structure in the organization. Some employees may lose power and influence they had and some may gain a new more influential role. Connected to this change in power is prestige. Prestige affects how desirable a specific position is and a change in perceived prestige may cause resistance to change (Oreg, 2006).

Job security – The fear of losing the job is a strong source to resistance to change (*Ibid.*). If a similar change has been made in another department, which resulted in employee terminations, the employees will likely think that the same will happen in this department and the fear of losing the job increases (Lientz and Rea, 2003).

Intrinsic rewards – Organizational changes often leads to changes in processes and job tasks for the employees. If the new work responsibilities and tasks are perceived as less interesting, less challenging or less desired, the intrinsic reward decreases. This is one cause to the development of resistance to the change (Oreg, 2006).

As mentioned above, also factors related to the change process can create resistance to change, these are *trust in management, information and social influence (Ibid.)*.

Trust in management – Employees that trust their supervisors and the management to do what's best for the organization is less likely to be resistant to change (*Ibid.*).

Information – Employees that received informative and useful information at the right times have been proven to be less resistant to change (*Ibid.*).

Social influence – Employees are part of a social context within the workplace, which more or less influence the individuals' attitudes towards the change. Social influences for or against the change can increase or decrease the resistance for the change (*Ibid.*).

Among the reasons for resistance to change described above, clear connections to Beckhard and Harris' change formula exist. Most obvious are the factors concerning the desirability of the new system, the end state, such as power and prestige, job security and intrinsic rewards. Intrinsic rewards can also be connected to the dissatisfaction of the current state, if the current job tasks are dissatisfying. Trust in management and information is important in order to increase the perception of the practicalities of the change also being part of Beckhard and Harris' change formula.

3.4 How to reduce resistance to change

As concluded above, the reasons for and aspects of resistance to change are several. Hence, the ways to manage and mitigate resistance to change are different for different situations. A set of tools to help reduce resistance to change needs to be identified.

Shaul and Tauber (2012) conclude that the first step is to be aware of potential resistance. By being aware of the potential reasons for resistance to change described above one can work with those reasons and by different means mitigate those reasons. Three main aspects to think about when managing resistance to change are identified:

- How important is it to manage the resistance? How influential are the people being resistant?
- How much time, money and resources can be invested in managing the resistance?
- Which method is most appropriate in this case?

By combining the answers from the first two bullet points with an analysis of the reasons for the resistance from a tripartite perspective, an appropriate method for managing the resistance can be identified. Aladwani's (2001) four questions for analyzing resistance are also helpful in order to decide on appropriate methods for managing resistance:

- Who are the resisting individuals and/or groups?
- What are their needs?
- What beliefs and values do they have?
- What are their interests?

Tools for reducing resistance to change

In this section, different tools for reducing resistance to change will be identified and explored. The approach to finding those tools are fourth fold, input will be gathered from *resistance to change theory, change management articles, change management models, and articles covering critical success factors for ERP implementation projects.*

Kotter and Schlesinger (1979) stated seven tools for dealing with resistance to change:

- Communication
- Education
- Participation and involvement
- Facilitation and support
- Negotiation and agreement
- Manipulation and co-optation
- Explicit and implicit coercion

These tools will be further explained below.

Stanleigh (2013) stated eight ways to reduce resistance to change. These ways to reduce resistance to change are similar to the ones developed by Kotter and Schlesinger and are presented below:

- Engage employees in planning the change by asking them for suggestions and incorporating their ideas
- Clearly define the need for the change by communicating the strategic decision personally and in written form

- Address the “people needs” of those involved. Disrupt only what needs to be changed. Help people retain friendship, comfortable settings and group norms wherever possible
- Design flexibility into change by phasing it in wherever possible. This allows people to complete current efforts and assimilate new behaviors along the way. Allow employees to redefine their roles during the course of implementing change
- Be open and honest
- Do not leave openings for the people to return to the status quo. If the organization and its leaders are not ready to commit to the change, don't announce the strategy
- Focus continually on the positive aspects of the change. Be specific where possible
- Deliver training programs that develop basic skills and build on these through processes such as conducting meetings, communicating, teambuilding, improving, self-esteem and coaching

(Stanleigh, 2013)

Generally, Stanleigh's methods for managing resistance to change are similar to the ones developed by Kotter and Schlesinger; engage employees, communication, address people needs, eliminate openings to return to status quo, in other words, make the change inevitable, strong leadership, focus on positive aspects and training. The only real contradiction between these two sets of methods is Kotter and Schlesinger's method of manipulation compared to Stanleigh's recommendation to be open and honest.

Aladwani (2001) has taken inspiration from marketing theory to develop methods to handle resistance to change during an ERP implementation project. Aladwani argues that one of the main goals for marketers is to get people to buy new products and in some way overcoming resistance to the new product. In marketing, a change process occurs between sellers, buyers and the product. Similarly, in an ERP implementation, a change process occurs between the ERP implementers, the potential users of the ERP system and the ERP system. Both in marketing and in ERP implementations, resistance to change needs to be handled. Aladwani's framework consists of three phases; *knowledge formulation*, *strategy implementation* and *status evaluation*. Two factors for resistance to change, habits and risk, are central in the framework. Risk refers to the risk the individual takes by accepting the new system. Habits refer to the current routines that need to be changed to fit the new system. *The knowledge formulation phase* focuses on evaluating individuals and influential groups from a number of perspectives as described above. *The strategy implementation phase* is divided into three parts; *awareness*, *feelings* and *adoption*. These three parts are similar to the ones addressed by marketers to convince a customer to buy a new product. These three parts will be referred to below when different tools for reducing resistance to change are described. The last component of the framework is the *status evaluation phase*, where the outcome of the project is evaluated. Also, the current status of the project is evaluated to determine if

there exist any resistance to change and in that case how that needs to be managed (*Ibid.*).

Communication

Communication is a tool for reducing resistance to change, especially when the resistance is based on inadequate or inaccurate information (Kotter and Schlesinger, 1979). Employees that receive informative and useful information at the right times are less likely to be resistant. Further is communication important when the initiators of the change require the resisters' participation (*Ibid.*), which is the case with ERP implementations. Effective communication is also concluded by Aladwani (2001), Näslund (2004) and Al-Ghamdi (2013) to be an important strategy for handling resistance to change. Connected to Aladwani's marketing inspired model for managing resistance to change, communication is a tool for creating a favorable awareness response. Both the ability for top management and project management to communicate to the organization but also the ability for the individuals to be able to give feedback on the ERP project is important to reduce resistance to change (Näslund, 2004). Communication within the project team and between the project team and the rest of the organization has also been mentioned as a CSF for ERP projects (Sumner, 1999; Esteves and Pastor, 2000; Dantes and Hasibuan, 2012).

Effective communication is important both between the bodies within the organization and between consultants and the organization (Al-Ghamdi, 2013). The benefits of the new system need to be communicated in order to create initial interest and motivation for the new system. A general description of the new system is also important to communicate in order to decrease the initial fear of the unknown system (Aladwani, 2001). It could also be beneficial to use a formal communication plan. The communication should be conducted through several communication channels (Kotter, 1995).

The scope, activities, updates and information about that change will occur should be communicated already in the pre implementation phase (Sumner, 1999). Näslund (2004) concludes that communication, both internal and external, is important throughout the whole project, in every phase. The usage of two-way communication channels is another way to reduce resistance to change. The top management and the project management should communicate to the organization as well as the users should get the ability to give feedback and input to the project (Näslund, 2004). This means that all levels of the organization should be involved in the communication.

Training and education

Training and education are ways to reduce resistance to change (Kotter and Schlesinger, 1979; Stanleigh, 2013). Training helps the users to adapt to the changes caused by the new ERP system. During training the users get the chance to learn about the potential benefits of the new system, which also improves their attitude towards the new system (Aladwani, 2001). Training and education, especially for the users of the new system, is also a CSF for a successful ERP implementation (Shaul and Tauber, 2012; Dantes and Hasibuan, 2012).

Näslund (2004) formulates four questions related to training and education:

- What to train?
- Who to train?
- How to train?
- When to train?

What to train – User training in the new system in how it works and how to use it is important. What many companies forget is the importance to also educate in the new processes and flow of information that the new system results in. Employees should understand how their work fit into the overall picture (*Ibid.*).

Who to train – All levels of the organization need training and education. However, what the education should consist of differs between different levels of the organization (*Ibid.*).

How to train – Both classroom training and web based training are measures that can be used. Users often struggle with both learning the new system and continuing to do their work tasks at the same time. Educating super users, end users that have superior knowledge in the new system and can serve as on-going support for the other users, can help this problem (*Ibid.*). Another way of supporting the users is to use a helpdesk solution to help the users to get aware of the new system and support them in the training process (Al-Ghamdi, 2013).

When to train – Training and education should be planned early on in the project. As mentioned above, different levels of the organization require different training. The training is also needed at different phases of the project. Post implementation training is something that should be included in the plan (Näslund, 2004).

Even if it is concluded above that training and education is needed at all levels of a company, the purpose is to increase the users' knowledge. The people on the strategic level are in most cases not users of the system. Hence, training and education is not important at this level.

It is hard to educate how the system works and how to use it when it is not yet decided which system to use. Hence, training and education is not important in the pre implementation phase.

Involvement

Participation and involvement are strategies that reduce resistance to change according to Kotter and Schlesinger (1979). Involvement is important when the initiators do not have all information needed to design the change. A positive outcome is that participators will to a larger extent be committed to the change. However, involving to many people is difficult and time consuming (*Ibid.*). Involving users early on reduces the risk of resistance to change since the users feel in control and not as threatened by the new system (Näslund, 2004). Stanleigh (2013) states involvement as a way to reduce resistance to change. He

suggests to engage employees in planning the change by asking them for suggestions and incorporating their ideas.

It is important to involve the users of the new ERP system both in the design and implementation process, which means in the pre implementation and implementation phase. This will result in better fit between the user requirements and the system, achieving better quality of the system and contributing to efficient use and acceptance (Esteves and Pastor, 2000).

The authors believe that users in this context can be both people on the operational and tactical level of the company. Hence involvement is important at both levels.

Facilitation and support

According to Kotter and Schlesinger (1979) facilitation and support is another tool for reducing resistance to change. Fear and anxiety for the new change can be managed by facilitation and support. Listening and providing emotional support as well as training in new skills and time off after demanding periods are different measures to do that. On the downside it takes time, money and patience and is still no guarantee for success (*Ibid.*). Stanleigh (2013) also states addressing the “*people needs*” of those involved as a way to reduce resistance to change. Disrupt only what needs to be changed. Help people retain friendship, comfortable settings and group norms wherever possible (*Ibid.*).

The aspects above are included in several different other tools which is why facilitation and support not will be an own tool. Training is mentioned which is already a tool. Listening and providing support is included in the communication, involvement and feedback and delegation tool.

Monetary or non-monetary incentives

Monetary or non-monetary incentives are tools for ensuring top management support and commitment and decreasing resistance on the strategic level described by Näslund (2004). This can be ensured by establishing monetary or non-monetary terms connected to the results of the ERP project for top management. Kotter and Schlesinger (1979) also describe incentives as a way to reduce resistance to change. They call it negotiation and agreement. When influential people will lose out on the change, a strategy is to negotiate incentives to manage active or potential resistance among those people (*Ibid.*). This point of view is directly connected to Beckhard and Harris’ change formula, if the desirability of the proposed change or end state is not appealing to an individual, this individual may develop resistance to the change. By using different incentives, the individual’s picture of the end state may change from being negative to positive.

Manipulation & co-optation

Manipulation & co-optation are tools described by Kotter and Schlesinger (1979) for reducing resistance to change. According to Kotter and Schlesinger, manipulation is a two-sided tactic when nothing else works or there is a lack of

time or resources. On the one hand, it can be efficient and effective. But on the other hand, if people feel that they are being tricked, they will often develop more resistance than they would have done otherwise. In this context, manipulation normally means selective use of information or conscious structuring of events. Co-optation is a form of manipulation where an individual or group is involved just to make them less resistant without really wanting any involvement from them. Problems can nevertheless arise if the involved individuals or groups do not work in a desired direction (*Ibid.*).

These tools described by Kotter and Schlesinger is a direct contradiction to Stanleigh's (2013) recommendation of being open and honest in order to decrease resistance to change. Further, manipulation can be a dangerous strategy and will therefore not be part of the research model.

Explicit and implicit coercion

Explicit and implicit coercion is the final tool for managing resistance to change described by Kotter and Schlesinger (1979). Coercion is an effective way when the change initiator has a lot of power and time is short or the change is unfavorable in people's eyes no matter how it is presented. Coercion essentially means that people are forced to change either explicitly or implicitly by the threat of losing something they want, for example the job (*Ibid.*).

First, since an ERP system implementation is a large project and the probability of the change being completely unfavorable in people's eyes is unlikely, the description above does not fit an ERP project well. Also, explicit and implicit coercion do more seem like a way to realize the change rather than reducing the resistance for the change. This tool will not be part of the research model.

Feedback and delegation

According to Shaul and Tauber (2012), the work with reducing resistance to change contains of constant feedback, clear reporting responsibilities and delegation of responsibilities to users with high knowledge of the processes. This work needs to be done from the beginning of the project and to the end, which means in all phases (Shaul and Tauber, 2012).

Maximize perceived net outcome

Both Aladwani (2001) and Beckhard and Harris (1977) state that an important part in reducing potential resistance to change among the end users is to maximize the perceived net outcome of the change for the individual. If a user is resistant, either the cost of changing needs to be decreased or the perceived benefit of the change increased in order to lower the resistance. It is important to convince the user that the new system will enhance the individuals' work (Aladwani, 2001; Beckhard and Harris, 1977). This strategy is a tool for creating a favorable feelings response in Aladwani's marketing inspired model described earlier.

This tool is placed in all of the three phases for the operational level in the research model.

Encourage official and unofficial leaders

Aladwani (2001) states that securing support from opinion leaders of influential groups is an important strategy for creating a favorable adoption response. By acknowledging the importance the leaders have for the project, the leaders will more likely be motivated to advocate the changes in the organization. It is important to have the official and unofficial leaders on-board on the project since the rest of the organization is likely to follow in their footsteps (*Ibid.*). Step 5, *Empowering others to act on the vision*, in Kotter's model described in the change management section also addresses these aspects. Kotter states that people outside the guiding coalition will be willing to drive the change and it is important to take advantage of this possibility. They can help reduce the obstacle of people working against the change (Kotter, 1995).

In both Aladwani's and Kotter's model, encourage official and unofficial leaders is not part of the early stage of the process which is why this tool is placed under the implementation and post implementation phase. The official leaders are often part of the tactical level and the unofficial leaders are often part of the operational level, which is why this tool is placed under these two levels in the research model.

Top management support

Lack of trust in management is one of the reasons for resistance to change described by Oreg (2006). Stanleigh (2013) states that a way to reduce resistance to change is to not leave openings for the people to return to the status quo. If the organization and its leaders are not ready to commit to the change, do not announce the change (*Ibid.*). In other words, top management support is a tool for reducing resistance to change. Top management support is also a part of Kotter's model. Step 2, *forming a powerful guiding coalition*, addresses the importance of top management support (Kotter, 1995). Top management support is identified as a CSF for an ERP implementation project and is needed throughout the whole project (Shaul and Tauber, 2012).

Näslund (2004) states that organizational changes caused by an ERP implementation should be driven top-down. Both top management commitment to the ERP project and commitment of resources to enable the ERP project are important for success (*Ibid.*).

The project needs to be approved by the top management (Bingi *et al.*, 1999; Buckhout *et al.*, 1999; Sumner, 1999), which can be encouraged by tying management bonuses to implementation success (Wee, 2000; Näslund, 2004).

It is easy to claim that a project got top management support but the top management really needs to identify and communicate the project as top priority (Wee, 2000). The top management should share the goal, objectives and vision of the organization and the plan for the new system and structures, with the employees. The changes that occur, regarding organizational structures, roles and responsibilities, during the ERP implementation should be established and approved by top management (Roberts and Barrar, 1992).

Since top management support is considered as important by several authors it will be placed in all levels and in all phases in the research model. At the strategic level top management support will be within brackets since it is only applicable when a higher level of management exists.

Vision

Stanleigh (2013) describes that one way to reduce resistance to change is to clearly define the need for the change. This is also described in step 1 in Kotter's model, *establishing a sense of urgency*. According to Kotter (1995), establishing the belief in the organization that the change is needed is crucial to motivate people to change. Without any understanding of the need for change, those people will likely be resistant to the change. Kotter further specifies this need in step 3 of his model, *creating a vision*. According to Beckhard and Harris' change formula (1977), it is important that the desirability of the end state of the change is positive, which can be done by a strong vision.

Näslund (2004) states that a clear vision of the project is important for the success of the project. This vision needs to be backed up by an organizational need or problem. Gaining organizational buy-in for the project is important and to do this, both a solid vision and this vision being shared by the whole organization are needed (*Ibid.*).

The vision needs to be formulated in the beginning of an ERP project and communicated to the whole organization. Since the vision is communicated by the top management, at the strategic level, to the rest of the organization, the vision is placed at the tactical and operational level in the research model. The "*beginning*" of the project is considered by the authors to include both the pre implementation phase and the implementation phase.

Milestones and targets

To continually focus on the positive aspects of the change and be specific where possible, is stated by Stanleigh as a way to reduce resistance to change. Kotter (1995) addresses a similar topic in step 6 of his model, *planning for and creating short term wins*. Nah *et al.* (2001) identify the usage of milestones and targets as a CSF for ERP implementation projects. These milestones should be realistic according to Shaul and Tauber (2012). They can also be used during the post implementation phase to visualize achievements and by that boost the morale (Staeher *et al.*, 2012). According to Kotter (1995), managers should actively seek for short term improvements and communicate and reward the people accomplishing those improvements. The reward can be recognition, promotions or even money.

Adjust expectations

Addressing the issue of delayed performance improvement is a way to decrease resistance to change according to Näslund (2004). It is not uncommon that the performance level of the company drops when the new system is implemented due to complexity. Often not until several months after the completion of the implementation, the performance improvements and the value of the project

present themselves. It is important to adjust the expectations according to this (*Ibid.*).

Both the users and their managers, which means the operational and tactical level, needs to be aware of this. Adjusting expectations should be done from the implementation phase and forward.

3.5 The research model based on the theory

In section 3.1.5, the dimensions of the research model were defined, three phases of an ERP project and three levels of an organization. Above are 14 potential tools for reducing resistance to change presented of which 11 are concluded to be part of the research model. A motivation of where in the research model each tool will be placed is also provided above. The research model based on the theory analysis is presented in Figure 11 below.

3. Theoretical framework

	Pre implementation	Implementation	Post implementation
Strategic level	<ul style="list-style-type: none"> • (Top management support) • Communication • Monetary and non-monetary incentives 		
Tactical level	<ul style="list-style-type: none"> • Top management support • Communication • Involvement • Vision 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Encourage official and unofficial leaders • Adjust expectations • Involvement • Vision • Milestones and targets 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Encourage official and unofficial leaders • Adjust expectations • Milestones and targets
Operational level	<ul style="list-style-type: none"> • Top management support • Communication • Involvement • Vision • Feedback and delegation • Maximize perceived net outcome 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Encourage official and unofficial leaders • Involvement • Maximize perceived net outcome • Adjust expectations • Feedback and delegation • Vision 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Milestones and targets • Encourage official and unofficial leaders • Maximize perceived net outcome • Adjust expectations • Feedback and delegation

Figure 11. The model for reducing resistance to change at different levels and phases of an ERP project

4. Empirical data

This chapter will show the result from the empirical studies, the interviews. A summary of each interview is presented. The result has been divided according to the ingoing tools in the research model in order to enhance the reading.

4.1 Company interviews

In this section are the material gathered from the interviews presented. The interviews were conducted between December 2013 and March 2014. The interviews were conducted in person and the duration of each interview was 45 – 75 minutes. Below is a list of all the interviews conducted divided into different groups:

Project manager/ project owner

- Company 1 - Interviewee 1
- Company 1 - Interviewee 2
- Company 2 - Interviewee 1
- Company 3 - Interviewee 1
- Company 4 - Interviewee 1
- Company 5 - Interviewee 1

Project team member / process owner

- Company 4 – Interviewee 2
- Company 5 – Interviewee 2
- Company 5 – Interviewee 3
- Company 6 – Interviewee 1

Users

- Company 4 – Interviewee 3
- Company 4 – Interviewee 4
- Company 5 – Interviewee 4
- Company 5 – Interviewee 5
- Company 6 – Interviewee 2

Consultants

- Tacticus - Interviewee 1
- Tacticus - Interviewee 2

Each of the interviews will be presented in detail below. The information gathered is translated into English and divided into the same subtopics for each interview. Only the relevant parts from the interviews are presented.

4.1.1 Company 1 – Interviewee 1

Background

The interviewee worked as a project manager for the ERP project at the company. The project started in the end of 2010. During 2011 a pre study was conducted and in February 2012 the company went live with the new system in Sweden. In November 2013 the company went live in Denmark.

The legacy system in Sweden was old and not well functioning. The IT knowledge at the site was not high. However, the willingness to change was great. They thought, *“here comes someone with a tool that is better than before”*.

The users believed that the new system was hard to learn since their IT knowledge was low. The organization was also slightly old.

The site in Denmark had a well-functioning system that they believed worked very well. The site had spent a lot of money and resources in order to adjust the system to their needs. The system was thereby near optimal for their operation.

Resistance to change

At the strategic level it is quite easy to see the advantages of a new system. It is on the operational level the resistance to change is greater.

In Sweden it has been a challenge for the middle level managers to ensure that nothing is done outside the new system, that no unnecessary sub processes are created.

In Denmark the users felt that the new system was more complicated than before. The challenge was to sell the new system to the users. The challenge was to say: *"I understand that it will be more work but you have to try to work in the new system because it is the only way forward"*.

One important learning from the project is to try to take everyone's needs into account. One should do a proper pre study and clearly state the problems. For the next implementation the project team will sit down with the users and ask them how they do their daily work.

The new system can be adjusted slightly to fit the processes but often the processes need to be changed. When the users claim they need a function one should identify if it is a nice-to-have or a need-to-have function.

Top management support

One of the key learnings so far in the project has been to: *"ensure strong ownership from local management team"*. It is important to ensure that the local management is convinced about that the new system needs to be implemented and that they have to adjust their processes to the new system even if they do not think it is the best way to work.

Communication

Primarily it is important to sell the system to the management level, but there will always also be resistance at the next level below. Sometimes it can be hard to sell in the system since the new system is better in some ways and worse in other ways.

Sometimes communication can be hard. To cooperate with someone that says: *"it does not matter what you say, it is useless"*, is not optimal.

Training and education

The interviewee believes that: *"knowledge and acceptance go hand in hand"*.

In Sweden, at the operational level, the users thought their knowledge about the new system were low and that they needed more education. The resistance at the operational level occurred at a later stage of the project, when the education was conducted.

It is hard to decide how much education that is possible to give due to time constraints. The plan has been to educate the key users who then should educate the rest of the end users. The end users need the education as near the go live date as possible to have it fresh in mind.

It is possible to conduct education on the main functions early in the project. However, it is only possible to educate on a function when it is developed and to develop a function in the new system one needs to understand the whole flow. This means that if the development of the new system is delayed the education is delayed.

Involvement

The interviewee believes that involvement can decrease the resistance to change. It is easier if the resistance is identified early. The interviewee believes that a key to handle resistance to change is to involve people from the top and down. Another key is to ensure support from the people and that everybody agree on what one is doing and why. It is also important to find key users and involve them in the project as soon as possible. However, it is a challenge to get people to be part of the project since these employees also got operational responsibilities. The balance between the project and the daily work is hard.

There has been a problem with getting the organization in Denmark involved sufficiently enough in the project. The manager for each main function has been part of the project team. However, two of them have not been part of the development of processes. They have taken one step back when they should have taken one step forward.

The involved people enjoy being part of the project since they can influence the development of how the work should be conducted in the future. Otherwise someone else will decide how they should work in the future. There is an interest in being part of the project even if it means a lot of work. The amount of work made two people in the project team in Denmark quit. It is tough to be part of a project since it is something that is added on top of the daily responsibilities.

Other

The key is to have a lot of people available at the go live date. For example, when the first production order is to be done, there should be people around to help the end users.

4.1.2 Company 1 - Interviewee 2

Background

The interviewee is IT-manager for one business unit at the company. The business unit has around 1800 employees. They have recently upgraded their ERP system at seven different sites in Europe. The company's site in Italy went from a site-specific customized system to a standardized ERP system a couple of years ago.

The interviewee also has previous experience from ERP implementation projects.

Resistance to change

The interviewee does not want to call the phenomenon "resistance to change". The interviewee rather views it as fear for the change and a challenge to get people to change. Though does the interviewee acknowledge that everybody that works with a project always face both people that think the project and the changes the project result in is a good idea and those who do not like the project at all. The most fundamental source for fear against the change is the individual's fear of losing the employment.

Resistance to change is something one needs to be aware of and know how to handle when it arises. A good project leader is perceptive and listens to the affected people of the project. Handling different people is key, both being able to motivate, support and state expectations is important. *"The soft part is the big part of an ERP project."*

Middle managers are normally positive to a new ERP system since it will improve the way they are measured. Middle managers often get a super user role at the company.

The legacy system is never as good as the day the change takes place. A good legacy system can result in more resistance but knowledge and information leads to interest and acceptance of the new system among the users.

The Italian site went from a customized system to a standardized system without room for adjustments. One strategy is to diminish the uniqueness of the site and the change process to make them realize that their processes will fit a standardized system. During the transition phase some processes may feel like more complex but in the long run efficiency gains will be made. The interviewee believes that the vast majority of the users will be satisfied after 6 months even though they felt the project was cumbersome during the transition phase.

The system upgrade they recently have conducted mainly resulted in a facelift of the interface and improved processes for two departments. The upgrade is perceived as a new system but with very similar work processes. This upgrade did not cause any resistance since it was presented to the organization as a facelift without actual changes that affect the users.

The coming project is an ERP project in Belgium. The Belgian site is a small distribution center. They are very happy for the new system for two reasons. First, the site is afraid to be disused and they see the investment in the new system as a sign that the company will continue to conduct business at the site. Second, they know that the new system will enable some processes they lack today.

Top management support

It is very important with top management support already from the beginning in an ERP project. If top management is not supporting the project, the project should not be started in the first place. Also, support from the steering committee of the project is important. Support top down is important.

The interviewee has previous experience of an ERP project that lacked top management support. If top management are not interested in the project or do not support it one got big problems. The top management at the American site that did not support the project did not understand the benefits of the new system, they were happy with the old one. This lack of top management support led to conflicting priorities for the employees in the organization between the ERP project group's directives and their middle managers' directives. The middle managers get their directives from top management and if they are not supportive the middle managers are likely not to prioritize the ERP project.

Even positive employees to the new ERP system had problems to prioritize. A reason for this is that companies normally do not hire extra personnel to handle the extra workload during an ERP implementation but the employees are expected to conduct the additional work tasks besides their regular work tasks.

Communication

Communicating the project early is one way to be proactive and reduce the fear for the change to come. As long as one has received information about the project one feel more involved.

An email is not enough to reach everybody. The communication does not need to be complicated but the important thing is to reach out with the message. One example of a simple message is: "*We will change the system, it will be great*". Using pictures is effective as well for keeping the communication simple.

The top management team often thinks that they have communicated a lot but that is often not the case. They communicate to selected people and then the information is filtered down in the organization. When the information reaches the end users there is not much left. Each level makes a choice on what to pass down. One needs to be aware of that some employees look for information and some ignore it. It is important to communicate to all levels in the organization. Questions tend to appear later in the project and then the middle level managers need to be prepared to be able to answer those questions.

Cultural and linguistic differences are challenges the interviewee has experienced in order to get people from different sites and levels to pull in the same direction.

If the project will lead to employee terminations it is better to delay this announcement as long as possible. By delaying the announcement the resistance to change that the employee termination results in is sometimes decreased.

Training and education

The company had an early review with most of the users consisting of a PowerPoint-presentation with the goal to establish the feeling among the users that they had seen the new system. This gives a feeling of secureness. More detailed education was given closer to the go live date, at most a month from this date. Super users were conducting this education.

During the ERP project at the Italian site a lot of education was needed since the old system was very different from the new one, which created larger process changes. There was a large spectrum between different users in respect of knowledge and interest levels. Some people did still print a PDF document with numbers to later punch them into Excel.

Involvement

Involving users is a way to reduce resistance. During the test phase a larger number of users can be involved.

Encourage official and unofficial leaders

The company used process leaders in the ERP project. Some of the process leaders did not participate but then unofficial leaders took a step forward and filled that gap which was important for the project. Positive and driving people are important for the project and they affect the more negative employees in a positive way. One strategy is to use the ones positive to the project and to encourage them to help pursue the ones more negative to the project.

4.1.3 Company 2 – Interviewee 1

Background

The interviewee is currently working as IT Manager at the company. The division the interviewee works in consists of 34 sites around the world. A majority of these sites have implemented a new standardized ERP system within the last years or are going to do it within the near future. The interviewee is and has been the project owner in those projects.

Before starting working for the company, the interviewee worked as an IT manager at two other large Swedish companies for around 10 years each. During these employments the interviewee has implemented ERP systems at different sites around the world as well.

Resistance to change

The interviewee takes part in the project group to among other things try to catch possible resistance movement that in worst case can ruin the whole project. It is astounding how some employees counteract the company they are working for.

The greatest or at least the hardest resistance to change to handle normally exists on the middle management level. This is because the middle managers are stuck between the end users that they are responsible for and the top management. They sometimes have trouble to see the benefits of the new system since they are not working with it daily and combined with hearing complaints from the end users they develop this resistance. In the beginning they only see the negative impacts of the system in form of their employees struggling to learn the new system and are forced to work overtime. First because they need to learn the new system besides conducting their normal work tasks and after the go live date because the new system takes longer time to work with in the beginning. The middle managers main concern is the performance of their department, which is temporarily impaired. This can result in resistance among the middle managers.

End users are usually also resistant but this resistance is more easily handled and is not as critical to the project as resistance on higher levels in the organization is. There is one way to get a user to like the legacy system and that is to tell him or her that a new system will be introduced. One of the reasons for this is that the old system is within one's comfort zone, one knows the system and one feels secure with one's work tasks. Once the end users feel more comfortable with the new system their attitudes normally changes towards more positive attitudes. This change happens gradually and can be hard for the middle managers to detect which is why their negative attitudes towards the new system remain longer. The interviewee has still not seen a project that is successful on the go live date, but 9-12 month later most of the affected people are happy with the new system.

Top management have normally easier to see the long term gains of the new system and is not emotionally attached to the project as the middle managers can be, which is why they have much easier to overlook the short term challenges the new system results in.

In general, people are less resistant if one goes from a bad legacy system compared to if the legacy system works relatively well. However, just because the legacy system is bad it does not mean that everybody on the operational level is aware of that. Some people think that manual control in the process is a strength because it makes them feel in control.

Top management support

Top management support is the most important thing in an ERP project from a resistance to change perspective. The top management needs to be supportive already in the pre implementation phase and through the whole project. Only

officially announced support for the ERP project is not enough. Truly committed top managers are critical for a successful ERP project. This means that the top management actively takes part in the project, helps solve problems, drives change processes and actively takes part in the communication of the project downward in the organization.

Even if the interviewee is above the local top management in the hierarchy, the interviewee has no influence on the people working at the local site, they follow their local management.

A new ERP system is not forced upon any site, it is not until the top management at the site decides that they want to implement a new system that the project is started. This self-determination affects the top management support in a positive way and removes some of the potential resistance. However, they are not allowed to choose which system to implement by themselves, all of the company's sites are forced to implement the same system once they have made the decision that they want to implement a new system. This can decrease the support from top management but is often overcome by explaining the benefits with the system they have to implement and answering questions related to the new system. Convincing the local top management that it is the right system to implement is sometimes complicated by that the local team already has contacted local ERP vendors who have explained the benefits with their systems. Normally the local management is convinced by arguments and sometimes the interviewee's team just has to say that this is how it is going to be. The interviewee describes one example where they for one and a half day sat down with eight people from the local top management and presented the new system and answered questions regarding the new system in order to make them more positive to the system they were going to implement.

Each site has their own result responsibility and the ERP solution they have to choose is sometimes more expensive than other alternatives the local site has found. Even so they have to implement this system, which sometimes also increase potential resistance to the proposed system. However, once the decision is settled, the local management usually accepts the decision.

Communication

The keyword in an ERP implementation is communication. Constant communication about everything is important.

One should not be afraid to communicate problems. It is normally better to address problems directly when they arise and communicate how the problems will be solved and when it will be done. By waiting until the solution is found to address the problem the picture of the problem has normally worsen and spread through the organization and become worse than it would have been if the problem was addressed immediately.

Communication should be done at all levels in the organization but through different channels. For top management and high level managers passive

communication in form of updating status documents etcetera normally works well. However for employees further down in the organization more active communication is needed. This could be a weekly email with the status of the project or information in the canteen.

Training and education

The interviewee's team focuses on to "*train the trainer*". This means that they or consultants educate group leaders, often someone in the project team, through both informal and formal education sessions. The aim is then that those people handle the education needed for the end users, only when needed do they hire external resources to train the end users. The training for the end users starts 6-8 weeks before the go live date.

Involvement

Getting the right people on the project group is important. To free up time for those involved in the project, some work tasks need to be delegated to other people in the organization. Preferably temporary workers are brought in to conduct the simplest work tasks.

Feedback and delegation

Involving people and giving them responsibilities can have positive effects on their attitudes towards the project.

Vision

A vision should be communicated. It is important to adjust the language and the vision depending on to who one is talking to. Using imagery language can be effective on the operational level. Rather saying that it is going to be easier for the truck drivers than saying that the revenue will increase with x percent.

Milestones and targets

It is important to communicate when the project is finished. Since people tend to believe that an ERP project goes on forever, a clear ending is important. This should be done a while after the go live date. All problems do not need to be solved when the project is considered as finished. The remaining problems are transferred to a new minor improvement project.

Adjust expectations

It is important to know from the beginning that the ERP project will demand a lot of time and that it will also take time after the go live date until everything work smoothly. An ERP project is more difficult than most people imagine. For the most demanding roles in the project group, it is important to early solve the issue of who is going to do their day to day work tasks when they are working with the project.

Adjusting expectations should be done already in the pre implementation phase. The interviewee believes that adjusting expectations can probably reduce resistance to some extent.

Monetary and non-monetary incentives

It can be difficult to connect a bonus to the result of an ERP project. It is important to not cause any conflict of interest between personal gains and what is best for the project and the company. If bonuses are to be used it is important to connect them to the right KPI. The time of the go live date is a bad KPI for bonuses.

Other

If Business Process Reengineering, BPR, needs to be done this should be done before the ERP project in order to not cause the new ERP system to take the negative blame for all the new changes that is happening. Only process changes directly related to how one work with the new system should preferably be done during the ERP project.

4.1.4 Company 3 – Interviewee 1

Background

The interviewee works as CFO at the company. The company worked with an ERP implementation project during 2008-2010 and conducted a template. They went live in Sweden in January 2009 and continued with the rest of the world during 2011. The interviewee has been the sponsor of the project.

The old system consisted of up to 1500 modifications. They decided to do as few modifications as possible in the new system.

Resistance to change

The fact is that many people do not like changes. Some people are willing to change and some are not. It depends on what employee turnover the company has, the higher employee turnover the lower resistance to change.

An ERP implementation project starts in a huge uphill with resistance right away. Therefore it is important to work proactively. In order to even start the implementation one need to be prepared for taking the discussions, be hard and say: *“you are able to influence this to some extent, however you need to be prepared to compromise and it will result in changes for you and your group”*. The interviewee also used to say: *“I know that a lot of you are doubtful to this, but one thing I can promise you is that after this is conducted and one to two years has passed, all of you will wonder how you could manage before”*.

The problem is that there will always be some friction in these kinds of projects. Then a couple of managers will report issues and problems to the CEO because everyone cannot get what they want. The interviewee believes that if someone comes, and someone will certainly do, and says that *“now they are crazy”*, then one can never make an agreement. One must take the discussion with one’s manager. Some users may go to their manager and say: *“should I do like this now? It takes three times longer”*. Some managers do not investigate what the problem really is and just escalate it up in the organization or even promise something they do not know is possible. Sometimes a new ERP system creates additional

work at one place but in total the benefits outweigh the shortcomings. The new system could even be slower than the old system but instead more secure.

It is no coincidence that half of all ERP implementation projects are not completed. A big part of an ERP project is to learn how to work in a new way, after about six months the new processes do not take that much longer time anymore. Resistance can occur when a site get less functionality in the new system than they had in the old system. At some sites globally, problems occurred since the sites claimed that they really needed a type of functionality. They said that "*we must have this*", but it was not true. The key here is to find out what is really needed and focus on that.

The interviewee believes that to be up front and to conduct clarifying discussions with top management can reduce the resistance. The resistance is less high up in the organization even if the managers at this level get to hear a lot of complaints from below.

Top management support

As an experience from earlier projects the interviewee knew that top management support is important for ERP implementation projects. It is especially during the implementation the top management support is essential. One CEO at a sister company had the ERP implementation project as priority 15 on his list. The project group said directly that it would not work. It is impossible to exclude the top management.

The one that gets the assignment needs support from his or her manager. This is really essential. The discussion should be conducted within the project group and heated debates should stay within the group. Then the group should be aligned towards the rest of the organization. But again, the most important thing is that the CEO is aligned.

Communication

The interviewee believes that communication is really important. However, one cannot have the expectation that everybody will understand. Generally the fact is that regardless of how much one communicates, the employees would like more communication, and they always claim that there is a lack of communication. However, one should never stop communicating. The communication should consist of how to prioritize etc. If the organization does not have an overview they think that their things are less prioritized.

Daily contact between the project sponsor and the project manager is important. As soon as the project manager saw occurring problems there were discussions further up in the organization.

Involvement

From the beginning the company knew that in order for the ERP project to be successful, the best people needed to be involved in the project. They also knew that these people would be key people in the project.

The interviewee believes that it is very hard to get the best users to the project since they are often busy with a lot of other tasks. Sometimes they are not even interested in taking part in the project. The implementation phase is the most difficult since 50-100% of the users' time has to be spent on the project. A common mistake is that the people that should be in the project group are left out to do their day-to-day work and consultants are brought in instead. This is not good since consultants tend to present a solution they developed alone and then the organization is left out to adapt to this solution, which creates friction.

If the organization is allowed to choose what employees to spare, the employees most suitable for the project will not be chosen. The most competent users need to be part of the project and back filling should be conducted in the organization. Temporary employees can be brought in to fill up.

The middle managers developed a resistance towards that their best employees were to take part in the project. The interviewee believes that this is natural since no manager wants to spare his or her best employees and this is not resistance to the project. The first thing to do to solve this issue is to be hard and say: *"this is not negotiable"*. Some managers believe that it is possible to duplicate people. If one thinks that an employee that already works 120% could join the project group as well then one is greedy. It is impossible to duplicate people like this, no one can work like this. Instead one can use temporary personnel or someone else can do the day-to-day work.

Other

After the implementation project was conducted a support structure and a governance organization were put in place. Many companies miss to establish a governance structure. *"The project is finished but how does the continuation look like?"* With organizational changes and changes in personnel it can derail in just one to two years. It is not hard to keep a governance structure after the implementation but it has to be done.

4.1.5 Company 4 – Interviewee 1 and 2

Background

The interviewee 1 is working as a contracted project manager for the company's recent AX-project. The project started during fall 2012 and the main pilot study started in March 2013. The first go live date among several steps took place the 1st of December 2013. The second interviewee is employed by the company and has also been part of the project group.

Resistance to change

There has not been that much resistance in this project since the company was in a situation with a very old legacy system. There had been a discussion about changing the system for a long time. The main reason for the low resistance was the bad legacy system. The negative aspects of the old system were well known.

They anticipated that there would be different challenges at the two different sites, Gothenburg and Dalsjöfors. The two sites have different cultures, the site in Gothenburg has a culture of just doing work tasks without asking questions. They have had their legacy system for a long time and have a more *"it was better before mentality"*. Resistance oriented problems was expected to be greater in Gothenburg but the introduction phase went much smoother than expected. In Dalsjöfors the way of working was relatively new and the culture was more problem solving oriented. This helped the attitudes towards introducing the system. The actual changes were larger in Dalsjöfors and also the improvements.

Some of the people the interviewee 2 believed from the beginning would potentially be resistant to the new system have been positive. Contrary, some people that were positive to the system before the go live date developed resistance during the deployment phase. This is due to that different people has different tolerance levels. It is hard to predict who is going to be resistant. If a minority is resistant it is manageable and they will eventually adapt to the new system. However, if a majority is resistant, it is a big problem.

The interviewees do not think that they could have done anything differently from the beginning of the project in respect of managing resistance to change. The general positive attitude towards fixing problems in Dalsjöfors has helped a lot. The key to reduce resistance to change is understanding and engagement. If people understand the reasons for the change they get a better attitude.

Top management support

The project manager started with getting the top management on board on the project. The top management has been supportive from the beginning. The CEO wanted to conduct the project much sooner but the project group wanted to have time to first map the processes, anchor the ERP project in the organization and create understanding and involvement. They did not want to end up in a situation where people were thinking: *"what have you made up now?"*.

Communication

That there will be a system change has been communicated through a couple of company meetings with all employees invited. The effect goals stated in the beginning of the project have also been communicated to all employees in the organization at several occasions.

The interviewees think the ideal way for an ERP project is to start off from a crappy legacy system without any communication in the organization. If you then introduce a new system which improves the processes and you start to communicate and involve people, of course the reactions are going to be positive.

Engage, anchor and motivate has been important aspects. To continue to do this they will continue to hold meetings once a month for at least a year with people from all departments. At those meetings people can express problems they face with the new system, discuss and get ideas from other departments. Perceived

problems are often a consequence of lack of knowledge and those problems can be easily helped at these meetings.

Training and education

Approximately a quarter of the employees at affected departments had taken part in education before the go live. These people became super users. The model with a couple of super users worked well. The super users have had a positive attitude and passed on the knowledge they have gained through the education to other users. However the super users did not have time to learn all aspects of the new system. The project manager feels that they maybe should have given them more time.

The plan was to have an end user training but the system was not ready in time for that to be meaningful. The interviewees express that they wanted to educate more and they could have done the education part better but they lacked time.

Involvement

Employees were involved in the project from the beginning. By feeling involved people start to take own initiatives and the motivation increases. The interviewees actively chose to involve someone from every department. Those involved were able to express their thoughts and come with ideas. The list of ideas was taken into account when the new system was designed.

The involved people were mainly chosen because they knew the processes. To some extent this is connected to the position they hold but some has been involved just because the interviewees thought they are quick learners and have expressed willingness to participate. Some people were involved in some meetings just because the interviewees knew that they could be resistant. By involving them they got the chance to express their thoughts and get some answers at an earlier state than they would have otherwise. Interviewee 1 feel that this is something they should have done more but did not due to time constraints.

One of the main tasks in the beginning for this project group was to map the processes since they lacked knowledge on how specifically they were doing the work today. The processes were documented and then presented to more employees from different departments to get more perspectives on the result. The project manager is very satisfied with this work structure.

The company recently conducted a much smaller project not related to the ERP project. In this project the involvement of the organization was zero and this resulted in much more resistance. The result is that eventually, someone is affected by the change without really understanding what to do or why to do it and then it is likely that those people affected will be resistant to the change.

Feedback and delegation

There has been a clear delegation of responsibility in the project, which the interviewees feel have worked very well.

The roles of the involved employees have been to approve their processes, test them and give go-ahead sign. No one involved in the project could come and say that they had not got a piece of information, because, it was everybody's responsibility to make sure they had the information they needed. The project manager thinks this is important. For this to work they made clear from the beginning who to ask if one felt that one lacked information. In this case, one should start with asking one's closest supervisor and then will that person go to his supervisor if he or she lacks the answer and so on.

Another example of the responsibility regards education. If a super user felt that they had not received enough training, it was his or her responsibility to seek more information and training.

Encourage official and unofficial leaders

It has also been the responsibility of the members of the project group to pass information and motivation down in the organization. However, the interviewees feel that they could have expressed this responsibility more clearly. This responsibility has worked well at some departments but not at all departments.

Vision

Effect goals were stated in the beginning and communicated to the organization.

Milestones and targets

The project group stated effect goals in the beginning to be able to focus on what they wanted to achieve and not what they wanted to get rid of. The plan is to now, halfway through the project, start to evaluate those effect goals and to communicate the results to the people that have been involved in the project.

Maximize perceived net outcome

This was nothing the interviewees expressed explicitly but they explained at several occasions the importance of going from a bad legacy system to something much better. The resistance is likely to be much lower when the users understand the benefits, which in some way is maximizing perceived net outcome.

Adjust expectations

It has been communicated that the new system will not solve everything perfectly from the beginning due to lack of time and resources. Some processes will have to be improved over time. Communicating this is believed to have helped decreasing potential resistance. However, interviewee 2 thinks that at some point they will have to be able to deliver solutions to some of those problems that are not planned to be fixed in the beginning of the deployment phase.

4.1.6 Company 4 – Interviewee 3 and 4

Background

The main interviewee is a team leader for the production and works with administrative tasks in the system. At the time of the interview there was another employee in the room that works as a picker who shared his insights as well. This picker was in the project chosen as a super user in the new system.

The interviewees feel that they were in need of a new system. There were deficiencies in the old system, it was difficult to use the scanners and the information in the system was not reliable. The administration office noticed that the old system started to become slow and old. The pickers in the production did not notice it to the same extent.

Tacticus was brought in to implement the new system. When Tacticus arrived they were well prepared and knew what they wanted. They showed the new system and several meetings were conducted before the final solution was decided.

At this department a lot of the employees are new and has not worked in the old system for a long time.

Resistance to change

Overall the interviewees believe that the production went into the project with a positive mindset, even if it has been some ups and downs. It was especially during the longer downtimes of the system after the go live the motivation decreased. When the provider of the system does not find the errors in time it generates a lot of overtime and then the motivation decreases as well.

During the first two weeks after go live the production was very resistant towards the new system, but after that the work went smoother. Some of the pickers are still resistant but they do not see the benefits that the administration office sees. To keep the motivation high during the turbulent time after go live, the project group has conducted meetings with the different departments in order to discuss problems and find improvement opportunities.

Some people were resistant to the new system even before the implementation. To convince them the project group has told them the truth, *“whether you like it or not we have it and then we have to make the best of the situation”*. They also told them that the old system was bad and that there is no point in thinking that it exists anymore. There are some people that still are resistant. The project group has told them that they have to accept it and keep on working and that they will get help if they need. The interviewee believes that there will be less resistance in a couple of months since the more one learns the easier it is. The people that are most resistance have problems with a specific function.

Top management support

The interviewee feels that they got support from the project managers all the time. The project managers were really well prepared and well informed. They were also enthusiastic and spent a lot of time and effort on the project. The interviewee believes that this made the employees more positive to the project since their positivity rubs off. The interviewee believes that the project managers have contributed to the positive mindset. They have taken their time and helped out without thinking that the employees are idiots that cause problems.

The super users have forwarded this support to the end users, all things they learnt they have passed on to the end users.

Communication

The top management communicated to all employees that the old system had to be replaced early before the implementation. The top management also presented the project managers and showed what the plan was. The interviewees believe that this was really good. The top management only communicated to the employees once and then the project group took the lead.

Training and education

The super users and the other parts of the project group got education in the new system two weeks before go live. These people then helped the rest of the production. The interviewee believes that he learnt much as a super user during the education and that it was easy for him to learn. He also believes that this made him more positive towards the new system. Even if there was a clear plan for the super user to educate the rest of the end users in the new system, the super user believes that it would have been good for the other end users to be part of the education as well, even if it only was to see the new system.

The purpose with the super users were to secure that the daily work was performed in a sufficient way in the production during the first two weeks after go live. The interviewees believe that it is much easier to have a dedicated super user in the production that knows a little more about the new system and is able to help the others. This also makes the users more secure.

The interviewee believes that it is crucial to get education before go live. It is not possible to test the new system in the production after go live. In this project the go live date was postponed in order to be able to educate some users before go live. However, the production had no knowledge about the new system at all, which forced the employees to use the trial and error approach in the beginning after the go live date. Some of the employees did not get any education before go live at all. They knew that the system would be replaced but they did not know how the new system worked which was frustrating for them. Some of them were really frustrated when they could not handle the new system and when problems occurred.

No education based on a real order was conducted before go live which the interviewee thinks would had been good. There were also some vital functions

that the users had not been educated in before go live. The education focused on major functions but forgot the functions that seemed to be easy and simple.

Involvement

Some of the employees, one per department, were involved in the project already from the beginning. The interviewee was involved early in the project. The employee feels that in the beginning it was hard because one did not understand anything, it was a lot of new stuff. However, the interviewee feels that it was good to be involved. The interviewee was brought into the project group to give insights on how the production works, how the picking list should be designed, how the legacy system looked like and what should be replaced. This work was done in order to speed up the work when Tacticus arrived.

First the project group discussed by themselves and then one employee from each department was brought in to meet Tacticus consultants. The production got some modifications that they wanted. It was not only Tacticus that took the decisions, the production were able affect the decisions and the interviewee believes this was good.

Milestones and targets

The company has not used any targets to measure the benefits with the new system. The benefits are that obvious that one sees them. One example is that with the new system the production does not have to take stock every Friday. When this need is gone it is a positive aspect. This has been communicated but not much.

Adjust expectations

The production was prepared for downtime and problems with the new system during the first weeks after go live. In the beginning after the go live they were prepared for long days, they had prepared mentally. The company also commanded overtime. However, it worked pretty well after go live. The major problems occurred a long time after the go live when larger problems and long down times occurred.

The interviewee believes it was a good strategy to prepare the employees for the problems that can occur after go live since they then become set and prepared for it.

Other

Two representatives from Tacticus were at the site the first three days after go live to help out. The interviewee believes that this was really good. Tacticus supported on site for three days and then it worked well. The interviewee feels that this support was enough since the new system worked well when they left. However, the interviewee believes that there have to be someone to call when the system goes down who can solve it.

When a major issue occurs the report process is to slow. First the project managers need to be contacted, and then they contact Tacticus. With this setup

the time runs away and it can take a half-day before the system is up and running again. This makes the people in the production really frustrated and it creates resistance.

4.1.7 Company 5 – Interviewee 1

Background

The interviewee is working as a global IT manager and is responsible for the IT environment globally. The interviewee has been the project owner for the ERP implementation projects.

The company started in 2008 with an evaluation of the legacy system and began the discussions if the ERP system should be replaced or not. The company basically developed the old ERP system by themselves. In addition to that, the company had seven to eight different ERP systems globally in the group. They made the decision of going for a common ERP system to be used globally for all companies in the group. They also decided to change to a new ERP system without any modifications at all.

In 2010 the work started with an upgrade project for a sister company. After this a project to create a global template, where all the global processes were determined, was conducted during one year. The first implementation of the new ERP system was done in November 2011 at two companies within the group in Sweden. The year after, in May, they went live with four companies in Sweden, Norway, Denmark and Finland. In June the same year they went live in Germany.

The top management in the organization is called group management. Underneath the group management there was a steering committee for the projects. Then there was a project team with two project managers, one from the ERP system provider and one from Tacticus. Beneath this a structure with global process owners was built. Then finally beneath each process owner there was a local super user.

- Steering committee – high level responsibility
- Project management – both people from IFS and Tacticus have been involved
- Global process owners – have been responsible for one of 17 different sub processes
- Local super users – at each site super users for each sub process have been used

Resistance to change

The journey to change from an ERP system that had been tailored for the company during more than 30 years to a standard ERP system without any modifications was a challenge. Especially the fact that no modifications should be done has according to the interviewee definitely affected the willingness to change in a bad way. The interviewee has definitely experienced resistance to change in these projects and believes that there are a lot of challenges with it.

The most resistance occurred at the end users. This leads to that a process like this goes smooth in the beginning because the core group involved is interested and passionate about it. It is first when one reach the final phase of the project and the go live actually is reality people start getting concerns. The largest problems occur after go live when people start to understand that they cannot work like they did earlier.

On the middle manager level the attitude towards the new system was overall good.

The company was prepared for that resistance to change would occur because they chose a new system without any modifications. However, they got more problems with the improvement changes in processes not related to the ERP implementation project. But, because the ERP implementation was done simultaneously, the new system got the blame.

The interviewee believes that some people will never accept the change. When you make changes people behave like Figure 12 shows. Some people are in the end of the graph, they are already convinced and they believe that changes are great. These people one do not have to care about to a great extent. Then you have some people that think that: *“well, this could be good”*. These people are on their way to be convinced and then one have the people that never will change. A problem is that one often focuses on the most resistant people and tries to convince them. Instead the focus should be in the middle, if you convince the critical mass they will influence others and get more people convinced. The company spent too much time trying to convince the most resistant people. Independent of what the company said the most resistant people would not change anyway.

The interviewee believes that the reason to that resistance to change exist is that people are like Figure 12 shows. It does not matter what kind of change it is, these kinds of people always exist. But, *“there are different gradations in hell”*, dependent of how big the change is.

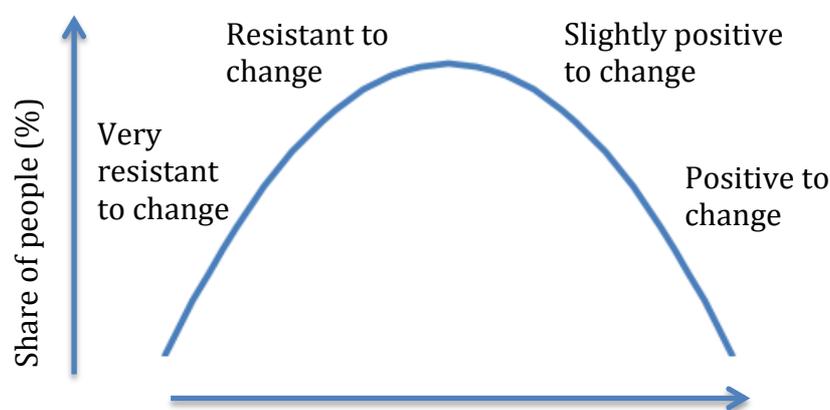


Figure 12. Different people's attitude towards change

Top management support

The group management supported the project the whole time, there was no one that was resistant.

There were some local managers that were resistant but it was not here the largest resistance occurred because the local managers got instructions what to do and this was not negotiable. If a manager not likes the system the negative attitude will be forwarded downwards in the organization and this could permeate the whole organization. However, the reasons to resistance are on a more individual level, some like it and some do not, independent of what their manager thinks.

Communication

No matter how much one communicates about the change or how much the users get to see and learn the new system during education, the users will not understand that they cannot do like they did in the old system after go live. They just do not get it, they try to work like they did before all the time.

The company has used different types of communication channels but the interviewee believes that this is always a difficulty. The project is pretty tight and therefore there is not much to communicate about, the project needs to be completed as well. *“Communication with all due respect, but unfortunately people cannot embrace it until they sit there with it, they do not get it before”*. People do not understand until the reality hits them and the problem is that then one is in a go live situation.

Training and education

The interviewee believes that education is like the communication: *“One can educate as much as you want but it is not until they sit there sharp”*.

The company conducted well-planned educations near go live in order for the end users to have it fresh in mind. However, the interviewee believes it is very hard to get the education reflecting the reality. Education before go live works on the basic processes but not on the deviations.

The usage of process owners and super users that have been in the project for a long time has been really important for the company since they could help the end users with these deviations because they got more knowledge.

Involvement

One could say that the less people that were involved the more resistance to change occurred. The people that were chosen to be in the project team were interested and willing to do it.

The interviewee believes that: *“one could never underestimate the time the internal users have to put in the project”*. This time is substantial. The project group clearly told the managers how much time the end users had to put in the project and how important it was that the managers freed up this time and

brought in back fillers to help the end users. This was not possible everywhere and some people were not able to put in the time in the project that was needed. *“To arrange resources, the internal resources, was probably the single largest problem”.*

One would like the key employees that already are busy to put 80% of their time in the project. This is kind of a dilemma since the managers are responsible for the resources at their department. With hindsight the interviewee believes that the project group should have been clearer with that if the managers not had freed up enough resources, the project group should have escalated the problem. The interviewee also believes that the project group should have been tougher. If the people had put in the time decided from the beginning a lot of time had been saved and the go live had been smoother.

Maximize perceived net outcome

The interviewee does not think there is a lot they could have done in a different way to handle resistance to change. However, they could have spent more time to get the end users to understand how large the change was. The go live phase was very tight and there was no time to tell people that: *“we do this because...”*. It was more like *“we do like this, period”*.

4.1.8 Company 5 – Interviewee 2

Background

The interviewee is manager for the customer service department for EMEA, Europe, Middle East and Africa, at the company. The interviewee was global process owner of the order process in the ERP project and part of the core team, just below the project owner of the project.

For about 1,5 years ago the company implemented an ERP system, IFS, through a step-by-step implementation plan. The interviewee also has previous experience from an ERP implementation at a large technical company where they used a big bang approach, all sites changed system at the same time. One of the reasons for the company hiring her was her previous experience of an ERP implementation.

Resistance to change

At the company in Malmö they have two different divisions. The divisions did not implement IFS at the same time. The interviewee noticed large differences between the two divisions in how resistant they were towards the new system.

The first division to implement the system was very positive whereas the second was not. Since the implementation at the first division went well they were not prepared for resistance at the second division. People at the second division were resistant because they had been working there for a much longer time compared to the first division. The resistance was greatest at the operational level.

Handling resistance to change is important both for the efficiency of the company and the overall mood among the employees, which also affects the

result in the end. Differences in efficiency and mood could be seen between the two divisions.

The company will soon implement the system in Asia and the US. Cultural differences need to be taken into account for these projects. Another challenge in the US is that they have a very good system today so there will be deterioration for them. Especially since they were acquired by the company and do not like the headquarters to come and tell them how to do their business. Arguing for the benefits of the new system is key to handling that challenge.

There is always a small portion of the employees that will always be resistant to a change. It is not worth spending effort on those to try making them positive. One has to accept their attitude.

The interviewee has experience from especially one woman that was very resistant. She was very afraid of the new system. The reason behind this was lack of knowledge. The woman is relatively old and has been working with the old system for a very long time. She was a minor expert in the old system within her organization. She also lacked experience of participating in a major change as an ERP project can be. This resulted in her being afraid of losing her value to the company and seeing herself replaced by younger employees. The key to this type of problems lies within the tactical level. If the middle managers had communicated and supported their personnel in the right way this problem would have been much smaller. When people get afraid as this woman did they need to get support, time and talked to on their level, not *"corporate bullshit"*.

Top management support

The top management for each division differed in their attitudes towards the project and that affected the attitudes of those on the operational level and tactical level.

The top management of the first division was driving which got the middle managers on board as well. In this division the middle managers were only resistant to how the project was carried out, that key resources were taken from them.

In the second division the top management was less supportive. They knew that they needed to change the system but if they were making the decision, they probably would not have gone through with it. Their lack of support also affected how they communicated the system. Some were openly trash talking the new system and some did not say anything at all. Their lack of support is believed to strongly result in more resistance further down in the organization. Especially in a hierarchical organization it is important what your manager think.

The interviewee would have liked the top management to be committed with more resources to the project. It was hard to get extra resources during peak workload for the project. Extra resources would have made the middle managers more positive to the project.

Communication

Communication is very important and it is important to communicate on the recipient's level especially on the operational level to avoid talking "*corporate bullshit*".

The ERP project was communicated top down in the organization. The top management communicated to the middle managers and then they communicated to their parts of the organization. The communication to the people on the operational level has been up to the middle managers and they have done this variously well.

The company has grand meetings where the CEO speaks to everybody. The ERP project was an important topic on the agenda, "*we are going to do this and everybody will be involved*". The interviewee thinks that the communication should have been kept more alive between the points where the new system was presented on a grand meeting and the actual implementation.

Training and education

The education was conducted before the go live date. First the process owners and super users learned the system well with help from IFS consultants. This education took much more time than expected and since the regular work tasks were still supposed to be done, this was a problem.

The end users were educated lastly. The new system was very different from the old one, which made the education take more time than expected. More time and resources would have made the most resistant people less resistant to the new system. The end users should also have been educated earlier, especially those who were afraid of the new system and less prone to change. Instead of thinking negatively about them they should have been handled in a different way. The education and communication should have been adjusted to them but there was no time.

Some people that had been working for a long time in the old system were even afraid to play around in the new system in a training setting. The attitudes towards the new system were improved when the knowledge about the system was improved. After a while the users understood that the new system actually was better than the old one.

Since process changes were made at the same time people started to realize how different processes were connected together, which made the benefits more clear.

Involvement

Getting people to feel involved and to feel that they are important is key to make them less resistant. The project group was good at involving the super users in the project but should have involved more people much earlier.

When implementing the system at other acquired sites a strategy is to try to involve people in the project instead of forcing the new system upon them.

The company tried to involve the woman mentioned earlier who was very resistant but she did not want to participate in the project. Instead they brought in another person in her place. The interviewee believes that this was a mistake. Instead they should have tried to communicate with her on her level and involved her directly instead of letting her taking a step back. This would probably have made her less resistant.

Feedback and delegation

Delegating responsibilities of communicating and arguing for the new system have not been clearly done. The communication to those on the operational level has mainly been done on initiatives from the middle managers with various results.

Encourage official and unofficial leaders

The company has used super users and they have been very important for the project. If a person not suited is chosen to be a super user and if there is resistant people within that persons department, problems are likely to arise. For the next project they will be even more careful when choosing super users.

Milestones and targets

The company is currently measuring KPIs but did not do that before the system change. The interviewee is only reporting the results upward in the organization and there has never been any resistance but they are happy to see the efficiency gains made if one compares today's numbers with the numbers just after the go live date. No results are communicated to those on the organizational level in the company.

Adjust expectations

The workload for the super users was much higher than expected and their managers were not happy with that, partly because they were not prepared for it. For the next project they will put more effort in getting the middle managers approval and understanding that the project will take a lot of time from some of their key employees. Preferably some temporary workers are hired to carry out some of the more simple work tasks during the project.

The expectations on each department were not adjusted during the implementation phase. A decrease in effectiveness was nor expected or accepted. The work was supposed to be done but with less resources. This made some middle managers resistant to letting their personnel be involved with the project, since this increased the risk of not meeting targets for the department. Extra resources or adjusted expectations would have helped this problem.

Once the new system was introduced the time for conducting some everyday work tasks increased substantially. This came as a chock for many end users and middle managers, even though the project team thought they had communicated

that this would be the case. The problem is that one does not really understand until one experience the problem.

Monetary and non-monetary incentives

Monetary incentives have not been used during the project. The interviewee does not think it would have been a good idea in order to decrease resistance since they are not used to working with bonuses at the company. It would have been another new thing to introduce.

Using bonuses is not a good idea when starting to implement IFS at the American site either since they are an acquired company and they still got there company culture. They need to be cautious when they implement IFS in America in order to not end up in a situation where it looks like the HQ is coming to show them how to do their business.

Other

At the interviewee's previous employer, consultants conducted the ERP project. They also helped adjusting the processes to fit the new system. People in general had also more knowledge of the processes. A problem at the company was that they did most of the things themselves. They lacked knowledge about their processes, which was a problem. Then they tried to change system, processes and the organization at the same time which resulted in a minor chaos. They were few people supposed to carry through all these changes and they lacked enough previous experience of such projects.

4.1.9 Company 5 – Interviewee 3

Background

The interviewee works as product manager and is responsible for all hardware products in one of the business areas of the company.

The department uses the system every day but they use it sparingly each time. The department is pretty small and they are not dependent on the system. The system is neither a great part of their daily work and hence they have not been affected in a greater extent. The old system was pretty complicated for them to use and it is much easier with the new system. With the new system the opportunity to look at details in the system is possible, which not was the case before.

Resistance to change

The department was very positive to the change of the system. Nearly everyone was positive already from the beginning. This department use to see changes as an opportunity for improvements. *"We use to be quite positive towards changes"*.

The old system was extremely difficult to work in and the interviewee believes this was one of the reasons to their positive attitude towards the new system. The interviewee also says that other departments that used the system more and thereby got more knowledge about it, were more resistant to the change.

The other departments that were more resistant do most of their daily work in the system. The interviewee believes that if it takes twice the amount of time to do the same thing in the new system it is clear that resistance is created. The old system was very well modified to the processes. The new system is a standard system without modifications and then the processes had to be adjusted to fit the system. The interviewee understands that the people that had worked in the old system for ten years became resistant when their work tasks became more difficult. However, the interviewee believes that this was not only caused by the ERP system since process changes and organizational changes were conducted simultaneously.

The interviewee thinks that some people are always resistant towards all types of changes. Even when the company moved to a new built office from an old shabby office, some people were resistant.

Top management support

The interviewee believes that the top management has supported the project.

The interviewee believes that it had been a good idea to get more resources during a short transitional period after go live. This had contributed to more time for the employees to be involved in the project. It is hard to be part of the project group when the daily work needs to be done. However, more resources equal more money, which is often hard to get.

Communication

The top management communicated the change to the employees. The interviewee believes that the communication to the employees that were not part of the project group could have been conducted more continuously. The top management could have communicated more to the end users, otherwise the go live can come as a surprise. It should have been communicated what is happening and how the new system will function. This was left to the process owners to pass forward to the end users.

Training and education

The process owners and super users got education and were supposed to educate the end users.

Some people that had worked in the old system for 25 years and could do everything between heaven and earth in the system became resistant when the system was replaced. Other employees asked these people when problems occurred in the old system and they solved them. With the new system they were no longer the people that knew the most in the system, which created resistance. The interviewee believes that to educate these people in the new system and show the value of it can reduce the resistance.

Involvement

The interviewee believes that resistance to change can be reduced by involving

the users and trying to show the advantages of the system. However, it is not possible for all employees to be part of the project group.

Some employees that were resistance towards the new system took a step back from the project group and said: *“we do not want to be part of this, let us continue as we always have done”*, when they instead should be more involved in the project. The interviewee believes that instead of letting these people take a step back, pushing them and force them to be a part of the project from the beginning could have helped.

Milestones and targets

The process owners only measured functionality of the new system and not efficiency.

4.1.10 Company 5 – Interviewee 4 and 5

Background

The two interviewees are working as order administrators at the customer service department. One of them started working at the company 2 weeks before the go live date of the IFS system implementation that took place 1,5 years ago. The other interviewee has worked for the company for several years at another department and within customer service two years prior to the go live date.

Resistance to change

The interviewees spend a lot of time in the system each working day. The old system was very old whereupon the response to the news that they would implement a new system from the interviewee that also worked there before the system change was: *“Finally!, I was very happy”*. The response has also been proven to be right since the interviewee express that their work has been improved by the new system. Both of the interviewees say that they like changes, which add to their positive attitude.

But everybody did not have the same reaction towards the new system. Several other people were afraid of the new system. The interviewee believes that the reason to that some people have a hard time with changes is that changes make them feel out of control. This was especially the fact for one woman who had been working in the old system for 25 years and knew it by heart. She was the one people asked if they had problems with the old system. She felt threatened by the new system, afraid of losing her position as the one who knows the system best.

Many employees are believed to have changed their attitude to a positive one towards the new system by now, but there are still some that are negative and think that it was better before.

The interviewees were in the same work group together with another person that was going to retire two month after the go live date. That meant that they had an extra resource during the transition phase, which gave the interviewees

more time to learn the new system and fix initial problems. They are very happy for that and believe that the transition to the new system went relatively smooth for them.

Top management support

The interviewees felt strong support from their manager but another department, that today is merged with this department, did not have the same support from their manager. The interviewees believe that a more supporting manager would have made the people working in that department less resistant to the new system.

The woman mentioned earlier was offered to be a super user but she did not want to. Her being a super user would have made her less resistant and a more supportive manager could have talked her into being a super user.

Communication

The company had been talking about implementing IFS for several years before they actually started the implementation. The interviewees could not remember exactly how it was communicated, probably at some department meeting. They recall that they thought the information given was enough, but they recognize that it differs a lot from person to person, some need more information.

Training and education

The interviewees believe it is important to have time to learn the new system. The more one knows and the more secure one feels, the more positive one becomes and then one starts to see the benefits of the new system.

The company conducted mandatory education meetings where the new system was taught. Sometimes it was very stressful to leave the ordinary work tasks in order to attend those meetings. On the other hand the interviewees believe it was good to be forced to attend them.

One of the interviewees was a super user that got education before the others. She believes that there could have been more education for those not being a super user.

Involvement

The main way of involvement was through being a super user. The people being super users were relatively positive to the new system. The interviewees are not sure though if they were positive from the beginning or if they became more positive because of the super user education. They believe that it is probably a mix of both.

Encourage official and unofficial leaders

No one had the role to sell the new system to his or her colleagues but there was a lot of negative talk about the new system. Therefore the interviewees believe that an unofficial leader that had promoted the new system would have been a good idea.

Vision

It is possible that a vision of the project was communicated but the interviewees do not remember that.

Milestones and targets

Any milestones or targets have not been communicated, known to the interviewees.

Adjust expectations

It had been communicated to the company's customers that they would change system and that it would take a month to be back at the same response times as before. However, it took way more time in reality to be back at previous response times. Internally, this had not been communicated well enough. Some believed that all problems would be solved once they started to use IFS but that was not the case, it was a lot of stress in the beginning.

The salesmen did not understand that the new system resulted in that work tasks took longer time than normal. They do not use the system and was only interesting in satisfying the customers. More information to the salesmen about that the system would result in some initial problems and delays would have diminished this stress for both the salesmen and the people working in the system.

4.1.11 Company 6 – Interviewee 1

Background

The interviewee works as a project manager for changes at the company. The company changed WMS system a couple of years ago and the interviewee was a part of that project group.

Resistance to change

Resistance can occur in every project, even in smaller ones. Some people have a general resistance towards new things. If one changes in these peoples' comfort zones, where they have worked in a special way, it does not matter what one changes, resistance will occur. The resistance can, even if it is not always a major problem, imply a great challenge for the project.

The interviewee believes that the reason to the resistance is often caused by that people do not see the whole picture. People tend to only look at their own part of the process. If one part of the process gets more difficult with the new system, but the whole process gets much better, the people working here will still become resistant. Sometimes the whole process gets more cumbersome, but more secure. In those occasions one needs to explain that for the users.

The resistance is often spread within the organization. If one person has a negative attitude this person can influence others which can create problems.

People that are quite neutral or unsecure from the beginning can be reversed by these people.

Top management support

The interviewee believes that the project has got support from the top management, which is important. It is much easier for the project when this support exists. The interviewee also feels, as a project manager, that it is easier to support and coach downwards in the organization when one knows that one has support from above.

Sometimes the users have lacked support from their nearest manager, which has increased the resistance to change.

Communication

The interviewee believes that one of the most important things to reduce resistance is to communicate. One needs to communicate why one needs to make the change.

One common problem is that one communicates and believes that the communication structure used in the company will work, which is not always the case. Then the change can come as a surprise for some people. It is thereby important to secure that the information reach all parts of the company.

Involvement

The interviewee believes that some people that have been involved in the project became a little bit less resistant and some remained the same.

The challenge is whom to involve. If one makes it optional, the participation level may be low. The most resistant people usually do not want to participate, but if the company chose people, the result can be incorrect.

Another issue was that the users did not have time to give their input. The interviewee believes that it is important for these users to take the opportunity to affect the change when it is given and not wait until the process is ready to request changes.

Encourage official and unofficial leaders

The interviewee believes that one should get the right people involved already from the beginning and inform them about why the change will be done. These people should then influence the users. If they manage to get the users buy in, then one is halfway through. One key here is time, these people need dedicated time for this otherwise it will not be done.

It can be hard for the top management to sell the system to the users. It is easier for the top management to influence the team leaders. The team leaders should in next step influence the users they know are open for changes. These users will then influence the rest of the users.

It is very important to secure that the team leaders are positive, otherwise they will forward their own negative opinions to the users, which can cause resistance.

Vision

The vision has been clear at the higher levels in the organization, but the interviewee believes that it could have been clearer communicated to the users and maybe communicated in another way that is easier to understand.

Milestones and targets

It is important to communicate what the target is and continuously communicate how far one is. It is also important to communicate in a simple way that it is easy to understand and not only that something should increase by X %.

Monetary and non-monetary incentives

Rewards can be used but not as incentives. It could be good to give for example cake or breakfast to the employees when a milestone is reached.

4.1.12 Company 6 – Interviewee 2

Background

The interviewee currently works as a production manager at the company and has earlier worked in the production at the company.

Resistance to change

Overall the employees at the company have been pretty resistant to change. The interviewee believes the reason for this is that a lot of changes have been done the past 1-2 years.

If a large group of employees is resistant it is hard to convince them. Even if one is able to convince one of them and make he or she less resistant, it is hard to convince them all. Therefore it is important to be proactive, to do things right the first time and try to reduce the resistance already from the beginning.

When changes are done a lot of the employees forget the big picture and focus on the changes in their part of the process. If they get a better understanding of how the whole process is improved, their resistance will decrease.

Top management support

One way to reduce resistance is to build trust. The employees need to trust the management in order to not develop resistance to change.

Communication

Information is first and last but can sometimes be difficult. Usually the top management gathers the employees for a town hall meeting. At this meeting it is difficult for everyone to give his or her opinion.

A better way to communicate is to use smaller face-to-face group meetings, with around 15 people, in addition to the town hall meetings. At these smaller meetings it is easier for the employees to discuss and give their opinions. The possibility for the employees to dare to speak is also increased at these meetings.

Involvement

The interviewee believes that people that have been involved in the projects are less resistant. The reason to this is that they get a greater understanding about the reasons for the change and why it needs to be done. They can also give their opinion and input to the change.

If the management make all decisions by themselves, resistance at the end users can occur. It is important to involve the right people in the project. If the end users' nearest managers believe that the change is negative they will pass this attitude to the end users. By involving these managers, their resistance can be decreased and then they may influence the end users in a way that reduce their resistance.

Vision

In the beginning the reason for the change and what the goal was were unknown for most of the employees. The interviewee believes this has caused resistance. The management believes that the vision has been communicated to the end users. The problem is that wrong communication channels have been used, the end users have not fully understood. When communicating the vision it is important to remember that the end users usually think in a different way than the managers.

Milestones and targets

Targets have been used in the company. The interviewee believes that the employees can feel more engaged and be less resistant when they see why the change is done, which can be achieved with milestones and targets.

However, it is important to use targets that are easy for the end users to understand. Otherwise they will only know that the target has been fulfilled but not the meaning of it. One could use different targets for different levels in the organization.

Adjust expectations

The company has worked actively with information about that it will be worse and that it will take more time in the beginning after a change. This can reduce the resistance a bit. However, the interviewee believes that one needs to be careful and set targets for the breaking-in period, otherwise the employees can get stuck with this mindset and the productivity can remain low.

4.1.13 Tacticus – Interviewee 1

Background

The interviewee is working as a senior consultant at Tacticus.

Resistance to change

Resistance makes the ERP project more difficult. It is important to address the potential challenge of resistant people from the beginning in an ERP project.

One should ask: *“Who may be resistant and what can we do to reduce that resistance?”* One way is to invite those people to an extra information session. The interviewee believes that uncertainty is one of the main reasons to resistance. *“I am happy with my current work tasks and I am really good at it.”* If some of those work tasks will be eliminated by the new system this can create fear. These people question the new system a lot. This issue is important to address with the client project leader. The project really needs to be anchored in the organization from the beginning. This can be done by an internal kick off where the supplier and consultants are invited.

Another reason for resistance, that can occur in the later stage of the implementation project, is lack of compliance between system functionality and project scope. It is important to know already from the beginning if process changes will be made and what functionality the new system will have. Otherwise lack of functionality in the later stage of the project can create resistance.

Some companies do not think it is important or do not think that they have time to address softer issues like resistance to change. Then the interviewee thinks that this issue needs to be addressed with the client to explain why it is important in order to reach deadlines.

It happens that the client’s project leader just has received the task of implementing a new system without being interested in doing it. In this case, one needs to start with persuading this person on why it is important and why the project is conducted. If the project leader does not advocate the new system, this will affect the rest of the organization in a negative way.

Top management support

Normally the top management is supportive to the new system.

Communication

Communicating the reasons for the change and explaining why this needs to be done is important to anchor the project in the organization.

A good thing to do is to explain the whole project and its parts to the whole organization from the beginning. *“These are the different steps of the project, during this period we (the consultants) will do most of the work but during this*

period, you will do most of the work." A good overview of the project reduces the uncertainty of what will happen and this reduces resistance to change. Here the issue of allocating enough time to the project can be addressed as well. *"During this period the project will demand 50% of your time."* This plan should then be addressed and communicated regularly during the project through weekly or monthly meetings.

Information on office boards and in emails is also good ways to communicate what is happening right now and what will be done next. This is believed to reduce resistance to change.

Another way of communicating is to use ambassadors. It should be known for the organization who the ambassadors are, put the information on the intranet, and that these could be contacted if questions arise. Tell the ambassadors that they should spread the project in a positive way. This way information about the project will reach all levels in the company.

If the new system will lead to terminations, this should be handled carefully. If this is communicated the motivation for the project will be vastly diminished.

Training and education

The education should be conducted when the system really works. The education should be in the later stage of the project and then a quick repetition near go live. However, smaller education sessions earlier to give the users a sample, should be used.

Involvement

Usually most focus is put on those negative to the new system but it is also a good idea to focus on those positive to the new system. Everybody want to be seen in some way. If one feels involved and know why one is involved most people will be positive. Then there are always those who never will change their negative opinions about the new system and then one has to accept this.

Treat everybody at a workshop in the same way even if there are some important managers present. This because you grow as a person when you get responsibilities and feel that you are seen.

One way to use involvement is to gather the project team and ask: *"What result are you aiming for?"* The project team will then reveal their goals. The next step is to ask: *"What are the challenges?"* and the last step is to look into the solution. It is important to not look into the solution too soon. A light version of this setup is also possible to use further down in the organization. If people then say that *"this is not possible"*, it is hard for them to motivate why it is not possible since they have been part of the solution. This is one way to let people explain their view points, concerns and increase the knowledge about the solution and thereby decrease the resistance.

The interviewee has seen examples of people who get involved in the project become more resistant since they get their concerns confirmed. Then the resistance will be worse in their part of the organization. When they are involved they are able to see the system before the rest of the organization and then they may spread their negativity in the organization. To solve this it is important to capture the resistance from the beginning. Even if this can occur, in most cases people that get involved are less resistant since they are able to understand and be part of the changes.

Encourage official and unofficial leaders

It is important in the analysis and design phase to be out in the organization and get peoples' input. By doing this one can detect some potential resistance from the beginning and also reduce some of this resistance. It is common that people say, "*this does not work with the new system, it is crap*". If this person has a strong personality there is a risk that he or she will affect other people in a negative way, people that potentially would have been positive otherwise. By trying to identify those people early on this risk can be reduced. This can be done during meetings or interviews. The interviewee then believes it is good to put some extra effort on trying to understand why that person is resistant. If one is able to change that person's opinions one get an unofficial leader that can influence other people within his or her part of the organization in a positive way. Joining people at the operational level for lunch is another way to pick up potential resistance and understand why people are resistant.

Vision

It is important to really communicate the purpose with the project in order to get everybody on board from the beginning. This should be done internally but the system supplier and the consultants can also help to communicate this.

Milestones and targets

Milestone and targets should be communicated by the company. Information about the status of the project, "*now we have come this far*", can be communicated on the intranet or by some weekly news.

Adjust expectations

Companies that implement a new ERP system often have a customized legacy system that works very well. Every aspect will not work as good from the beginning with the new system and it is good to be open and honest about this issue. In total the new system is better, but for some employees the work process will be impaired.

4.1.14 Tacticus – Interviewee 2

Background

The interviewee is currently responsible for one of the company's business areas. Earlier the interviewee has worked as a consultant and project manager related to ERP projects.

Resistance to change

Resistance to change is a common problem in ERP implementation projects. These projects are often very demanding for people since it is not ordinary for them.

A legacy system is as best when it will be replaced. Suddenly the legacy system can do everything. The interviewee believes that this is based on some kind of fear.

The implementation phase in ERP projects often become too large and then the customer does not have time enough to conduct the project, which creates resistance to change. It is better to do as much work as possible in the pre implementation phase and after go live.

Super users and process owners are often used in ERP projects. However, they are often part of the project during the actual implementation but after go live they go back to their ordinary work tasks. One way of working with changes is to secure that the process owners will be part of the change work for a long time after go live.

The interviewee believes that one reason to resistance to change is the unknown, that one does not know what is happening. When one does not have control of what is happening in the project, uncertainty is created. If one can make people secure about the project, *“one will get very far”*.

Top management support

The key to all kind of change management is 100% commitment from the top management. The top management should clarify that *“this is how we do”*. It is important that both the global and the local CEO are committed.

Communication

Communication is a foundation stone in change management. One should *“talk, talk, talk and tell people what is happening”*. This is very important and should be done all the way down in the organization.

Training and education

The earlier the users can try the system the better. This reduces the resistance to change. In many projects, more time than actually used is needed for education.

Involvement

The process owners and users should be highly involved in the work of developing the new processes. In one previous project, the top management at the company said: *“tell us how to work”*. They did not want any involvement at all. The interviewee believes that the challenge is greater when no involvement is used since then the important anchoring process is lost.

Vision

The vision is often very abstract. One should develop a vision that is as clear as possible. The vision could be different for different levels in the organization. However, it should be the same vision but communicated in different ways.

Maximize perceived net outcome

One way to convince the involved people, who often become key people, is to use the fact that involvement in ERP project often is a career path. This could be a way to sell the change to the involved people, make them see the change as something positive and thereby reduce the resistance to change.

Other

Since uncertainty is a reason to resistance to change it is important to reduce the uncertainty. One of the first steps to do this is to have a project manager that have control and is secure of what is happening. The project manager also needs authority, a clear agenda and project plan.

4.2 Summary

In Table 5 below the interviews are summarized. If an interviewee mentioned a tool as important in the work to reduce resistance to change, this is marked with green. The result of the interviews will be analyzed in chapter 5.

Table 5. Summary of the interviews

	C1.1	C1.2	C2.1	C3.1	C4. 1&2	C4. 3&4	C5.1	C5.2	C5.3	C5. 4&5	C6.1	C6.2	T1	T2
Top management support	Green	Green	Green	Green	Light Blue	Green	Green	Green	Light Blue	Green	Green	Green	Light Blue	Green
Communication	Green	Green	Green	Green	Green	Green	Light Blue	Green	Light Blue	Light Blue	Green	Green	Green	Green
Training and education	Green	Green	Light Blue	Light Blue	Green	Green	Green	Green	Green	Green	Light Blue	Light Blue	Light Blue	Green
Involvement	Green	Green	Light Blue	Light Blue	Green	Green	Green	Green	Green	Light Blue	Green	Green	Green	Green
Feedback and delegation	Light Blue	Light Blue	Green	Light Blue										
Encourage official and unofficial leaders	Light Blue	Green	Light Blue	Green	Light Blue	Green	Green	Light Blue	Green	Light Blue				
Vision	Light Blue	Light Blue	Green	Light Blue	Green	Green	Light Blue							
Milestones and targets	Light Blue	Green	Green	Green	Light Blue									
Maximize perceived net outcome	Light Blue	Green												
Adjust expectations	Light Blue	Light Blue	Green	Light Blue	Green	Green	Green	Green	Light Blue	Light Blue	Light Blue	Green	Light Blue	Light Blue
Monetary and non monetary incentives	Light Blue													

5. Analysis

In this chapter the result from the interviews and the literature review will be analyzed.

5.1 Empirical data

In this section each of the tools in the research model will be analyzed based on the empirical data presented in the previous chapter. Also, aspects addressed in the interviews related to resistance to change but not part of the research model will be discussed and analyzed.

5.1.1 Resistance to change

First, aspects of resistance to change explored during the interviews will be analyzed.

Why are people resistant?

The reasons for people being resistant towards the ERP project have been seen in the interviews to be several. A main reason for resistance to change is the fear for the unknown and the fear of not being able to conduct ones work tasks in a good way. *"I am happy with my current work tasks and I am really good at it."* Strong resistance towards the new system has been seen in those people that were experts in the legacy system. Some of those solved a lot of problems for their colleagues and through this they had a key position before the system change. With the new system those people are suddenly on the same level as their colleagues, at best. Then they get afraid of losing their value to the company.

The qualifications of the legacy system are another main source for resistance to change. Two main scenarios connected to the legacy system have been described in the interviews. First, some companies experienced a great challenge with resistance since the legacy system was highly customized to the company and the new system was a standard system, which made some processes more cumbersome in the new system. Second, the old system was very old and the organization was aware of the legacy system's shortcomings, which affected the reactions towards the new ERP system in a positive way. You cannot change what legacy system you have but it seems like it strongly affects the level of resistance towards the new system. Nevertheless, just because the legacy system is bad it does not mean that everybody on the operational level is aware of that. Some people think that manual control in the processes is a strength because it makes them feel in control.

Two interviewed companies have implemented a new ERP system at two different divisions either at the same time or following each other. Large differences have been seen in resistance between the divisions at each company. The reasons for this are believed to be different company cultures at the different divisions and differences in the time the people have been working there. The higher employee turnover, the lower resistance to change. This is believed to be true since people that change job more frequently are believed to be more open to changes.

Lack of time is one potential source for developing resistance to change. Employees need to get time to learn the new system. Normally the employees still have to conduct their regular work tasks when learning the new system,

which can cause a lot of stress. Especially since most of the employees have not taken part in any major project, as an ERP project is, before and therefore do not know what to expect.

Another reason may be that people do not see the whole picture. People tend to only look at their own part of the process. If one part of the process gets more difficult with the new system, but the whole process gets much better, the people working there will get resistant.

Several interviewees have said that some people are just resistant, no matter what change it is that lays for them. Some people have a very strong “*it was better before*” mentality. According to the interviewees, it is not worth spending time on those most resistant people. The main focus should be put on those that are easier to convince on that the new system is something good.

One interviewee explained that it is hard to predict who is going to be resistant. Some of the people the interviewee believed from the beginning would potentially be resistant to the new system have instead been positive. Contrary, some people that were positive to the system before the go live date, developed resistance during the first part of the post implementation phase. According to the interviewee this is because different people have different tolerance levels for stress.

Several of the aspects of reasons for resistance addressed above can be seen as factors increasing or decreasing the probability of resistance to change during the ERP implementation project. These factors are summarized in Table 6.

Table 6. Factors affecting probability of resistance to change

	Factors increasing the probability of resistance	Factors decreasing the probability of resistance
General factors	Processes more cumbersome in the new system	Processes less cumbersome in the new system
	Low employee turnover	High employee turnover
Individual factors	Expert in the legacy system	
	Lack of time	
	Do not see the whole picture	
	Inherent negative attitude towards change	
	Low stress tolerance	High stress tolerance

Where is the resistance the greatest?

The interviewees agree on that the most resistance to change occurs on the operational level. However, this resistance is not necessarily the one most difficult or critical to handle. Some interviewees explained that even though

many end users are resistant at the go live date, this resistance often pale once the end users get used to the new system and feels comfortable using it.

The interviewees' experiences of resistance to change on the tactical level differ a lot. Some say that this is where the resistance is common and most difficult to handle and other say that the people on the tactical level are usually not resistant towards the new system. The interviewees that answered that the resistance is most difficult to handle at the tactical level, mainly referred to situations where the people on the tactical level got stuck between competing priorities. They both had the responsibility of carrying on business as usual and at the same time freeing up time for employees to take part in the ERP project without getting sufficient assistance from temporary employees. Another factor is the situations where the middle managers not really see the benefits of the new system but at the same time they see their employees on the operational level putting in a lot of over time to learn the new system and complain about this. The interviewees who stated that resistance is usually not a problem at the tactical level believe that a new ERP system often improves the way people on the tactical level are measured which makes them positive to the new system.

One main factor affecting the resistance on the tactical level seems to be if they see the benefits with the new system or not.

The people on the strategic level are normally positive from the beginning. One interviewee explains this by that top management have normally easier to see the long term gains of the new system and is not emotionally attached to the project as middle managers can be, which is why they have much easier to overlook the short term challenges the new system results in.

However, a distinction needs to be made between companies that only have one or a few sites and larger companies that have several sites spread out over the world. If the latter is the case and the headquarters decides about implementing a new ERP system at a local site, resistance can arise also on the strategic level at that site. In this case there exists a level above the local top management, which makes the decision about the new ERP system. This is one of the reasons why resistance to change can arise on the local top management level in this case.

Is it important to reduce resistance to change?

Most of the interviewees said that it is important to handle resistance to change. The number of companies taking proactive actions towards handling resistance is however fewer. One interviewee said that if a minority is resistant it is manageable and they will eventually adapt to the new system. However, if a majority is resistant, it is a big problem. Another interviewee said that handling resistance to change is important both for the efficiency of the company and the overall mood among the employees.

5.1.2 Tools

Below will the findings from the interviews connected to each tool in the research model be analyzed.

Top management support

A majority of the interviewees have said that top management support is very important both for the project itself and the management of resistance to change during the project. One interviewee even said, *“If top management is not supporting the project, the project should not be started in the first place”*. No interviewees have said that it is not important. It is important to have top management support already from the beginning in an ERP project. Only officially announced support for the ERP project is not enough. Truly committed top managers are critical for a successful ERP project. This means that the top management actively takes part in the project, helps to solve problems, drives change processes and actively takes part in the communication of the project downward in the organization.

Committed and supportive top management is believed to decrease resistance to change. One problem that arises if the top management is not supporting the project is problems of how to prioritize work tasks and lack of time for the ERP project. If the importance of the ERP project is not addressed by the top management, it is hard to free up enough time necessary for the people involved in the project to be able to implement the new system in a successful way. Conflicting priorities for the employees between the ERP project group’s directives and their middle manager’s directives can then arise. The middle managers get their directives from top management and if they are not supportive the middle managers are likely to not prioritize the ERP project. These problems can increase the resistance for those negative to the new system and decrease the motivation and positivity for those positive to the new system.

Getting enough time for education and extra resources have been issues addressed in the interviews as connected to how resistant the employees are. These issues exist both before the go live to help decrease the workload for some employees that allocate a big part of their work time to the ERP project and during a transition phase directly after the go live to help solve the initial problems and stress. These aspects affect both those on the operational level, but also the middle managers that have the performance of their department at key interest. If key employees are taken from them, they want the possibility to take in extra personnel to fill this gap to not develop resistance, if not towards the new system itself but at least towards the project process.

At one of the companies interviewed, the new ERP system was implemented at two different departments after one another. The top management at the first department was very supportive but the top management at the second department was not. This was believed to be one of the factors resulting in the employees in the second division being much more resistant to the new system compared to the first department.

An additional challenge to achieve top management support has been seen at those companies that have a headquarters and then several sites around the world where people from the headquarters in some way or the other initiate an ERP implementation project at the local site. In those cases it could be more difficult to achieve top management support, but at least as important. Communication and discussions with the top management at the local site as well as explaining why the new system is important to implement and how it will enhance the business are ways to achieve this. One interviewee mentioned the importance of not ending up in a situation where the local site sees it as their “big brother”, the headquarters, that comes and tell them how to do their business. Another interviewee explained that if the initial efforts to persuade do not work, sometimes one just have to be hard and say, *“this is how it is going to be.”* Then the local top management normally accepts the new system.

Several interviewees mentioned that even if top management support is important, the personnel are often most influenced by their nearest manager. This is especially the fact at the operational level, but in some cases even at the tactical level. Even if the top management makes the biggest decisions, one knows that the decisions that regard one own are taken by one’s nearest manager. In other words, management support is also important for the ERP project.

Communication

Several interviewees addressed the importance of communication. Communicating the project early is one way to be proactive and reduce the fear for the change to come. As mentioned before, resistance to the new system is often a result of fear for the unknown. The employees do not know how the new ERP system will affect them and how the major changes will happen. These aspects are important to address in the communication to decrease resistance to change. This can be done through continuously communicating updates on what is happening right now and what is planned to be done in the near future.

Communication is also the main tool to realize most of the other tools for managing resistance to change in the research model. For example, only stating a vision does not change anything, it is first when the vision is communicated to the organization that the potential impact can be seen. Another example is top management support, no employees know that the top management is supportive until the support has been actively communicated.

Several interviewees mentioned that you should adapt the way you communicate depending on who the recipient is. People on the operational level do not want to hear “corporate bullshit”, for example with how many percentages the top management wants to increase the revenue, but they want to hear how the new ERP system is going to influence their work.

In the beginning of the project the message to the lower levels in the organization should be short and crisp to really communicate the core message of the project. One example is, *“We will change the system, it will be great.”*

Pictures are also good to use to communicate the message. Several companies have short visual presentations of the new system and its interface early on in the project.

Engage, anchor and motivate are important aspects to achieve through the communication from the beginning. It is important to maintain the communication throughout the project, especially to those not directly involved in the project before the go live. This can be done through status updates using several of the company's communication channels. An email is not enough to reach everybody. Also this material can be graphic and presented at the company canteen or on information boards.

Communication should also to some extent be a two-way channel. Employees who get the opportunity to express concerns and viewpoints may reduce their resistance to change. Some interviewees explained how they involved people in some meetings just because they were believed to be resistant. This gave those people the possibility to express their thoughts and opinions.

The top management often believe that they have communicated a lot but their communication often only reach selected people in the organization. It is important to communicate to all levels in the organization.

One interviewee said that one should not be afraid to communicate problems. It is normally better to address problems directly when they arise and communicate that we are going to solve this problem this way and that it will be done by this date. By waiting to address the problem until the solution is found, the picture of the problem has normally worsen and spread through the organization and become worse than it would have been if the problem was addressed immediately.

Training and education

As mentioned above, one reason for resistance to change is fear for the unknown and fear for not being able to conduct one's work tasks in the new system. Education in the new system is one major tool for overcoming this fear. One interviewee said; *"Knowledge and acceptance go hand in hand"*.

All of the interviewed companies have used the model of super users that get education first and then the super users educate and support the other end users in their part of the organization.

Several interviewees expressed both the importance of having enough time to learn the new system and the challenge of creating enough time to do so. One problem has been that the employees cannot get education in the new system until the system is ready. If the system development is postponed, the go live date needs to be postponed as well to still have time for education. Several interviewees also expressed that end users that were not super users should have been given more time to learn the system before the go live. When

employees get more knowledge in the new system their resistance towards it normally decreases.

One company had an early review with most of the users consisting of a PowerPoint presentation with the goal to establish the feeling among the users that they had seen the system. This reduces some of the initial resistance and it is a way to improve the knowledge of those not being a super user at an earlier stage of the project.

One interviewee described end users within the interviewee's organization who were even afraid to play around in a test setting in the new system. Those people that maybe have worked in the legacy system for a very long time need extra time to adjust to the new system and change their opinions about it.

At one interviewed company some of the end users had not even seen the system at all before the go live. The first days after the go live contained several problems that were stressful for the employees, especially for those that had not seen the system before the go live.

Two interviewees on the operational level expressed that it was good that they were forced to participate in training sessions before the go live. Their regular workload was not decreased, which could have resulted in them not attending the training sessions if they were not mandatory. Even if this created some stress at the time, the interviewees were happy for this set up in the long run.

After the go live some companies use recurrent follow up meetings where potential improvements are addressed and synergies between different departments can be made through discussions about the new system. Perceived problems are often a consequence of lack of knowledge and those problems can be easily helped at those meetings.

Involvement

On the topic involvement several interviewees have focused on the challenge of getting the right people on the project and the challenge of freeing up enough time for those involved. These aspects are important for the outcome of the project but they do not address the impact on resistance involvement may have. However, some interviewees have said that involving people is a way to reduce resistance to change. When you feel involved and important to the project, you are likely to change your attitude towards a more positive one. The interviewees on the operational level believed that people involved in the project became less resistant to the new system

One interviewed project leader was even working proactively on the subject. They involved some employees in some meetings just because they knew that they were resistant. The goal was to make them feel that their concerns were heard and these occasions were also an opportunity to refute some of the reasons for them being resistant. An important aspect to have in mind at those meetings is to treat everybody in the same way and conduct the meeting in a way

that gives the people from the operational level the possibility to express their opinions.

Two interviewees explained the situation where they had an employee on the operational level that was involved in the beginning but then got very resistant and did not want to be a part of the project anymore. They expressed that instead of letting this person taking a step back they should have put some effort in understanding why the person was resistant and found a way to involve the person anyway. By letting the individual taking a step back, the problem is just postponed combined with the risk of that the problem may escalate.

At the interviewed companies, the main way to be involved for employees on the operational level has been through being a super user and in some cases a process owner. This only gives room for a small number of employees to be involved and some interviewees said that they would have liked to be able to involve more employees earlier in the project.

One interviewee also expressed a risk with involving people. If the involved peoples' concerns about the new system are confirmed, they may spread negative opinions about the new system in the organization. This can worsen the resistance in their part of the organization. However, in most cases people that get involved are less resistant since they are able to understand and be part of the changes.

Another interviewee explained a much smaller project they had conducted not related to the ERP project. In this project the involvement of the organization was zero and this resulted in much more resistance compared to the much larger ERP project. The result of not involving affected people is that eventually, someone is affected by the change without really understanding what to do or why to do it and then it is likely that those persons affected will be resistant to the change. By feeling involved people start to take own initiatives and the motivation increases.

Feedback and delegation

The interviewees have not addressed feedback and delegation very much. However, being a super user is one way to delegate responsibilities and several interviewees have expressed that being a super user may decrease resistance to change.

A first step to further investigate the potential impact on resistance to change by feedback and delegation is to more precisely define what feedback and delegation means in the context of an ERP project. In general, if you get positive feedback people tend to be affected in a positive way but it is not clear how this can be used in an ERP project.

Giving responsibilities may be two-folded, on the one hand some interviewees have expressed that it can decrease resistance to change. On the other hand, getting responsibilities means more work and several interviewees have

addressed the issue of not relieving work tasks enough for those people involved in the project. Some interviewees explained that they have seen involved people with responsibilities getting resistant towards the project when their workload got too high. However, if the workload is reasonable, getting responsibilities is believed to have positive impact on resistance to change.

Encourage official and unofficial leaders

No interviewees have explicitly expressed that they have encouraged people to sell the system to the employees in their part of the organization. Some have expressed that positive and driving people are important for the project and they affect the more negative employees. Based on the interviews, process owners and super users are the only positions of unofficial leaders. Some interviewees have expressed that those peoples' tasks have been to communicate and to some extent sell in the new system to their part of the organization, but that has been done with various result and could have been done better. Interviewees on the operational level expressed that since there was a lot of resistance towards the new system, a positive person with the task to promote the new system would have been a good idea.

One interviewee described the usage of ambassadors as a communication channel. This can also be seen as encouraging unofficial leaders. If ambassadors are being used, it should be known for the organization who the ambassadors are and that these people could be contacted if questions arise. Tell the ambassadors that they should spread the project in a positive way. In this way information about the project will reach all levels in the company.

Vision

The vision is closely connected to communication, therefore some of the aspects closely related to vision are discussed in the communication section.

Based on the interviews, the vision of the project is not a key topic. However, communication is important and what the interviewees mean when they say communication contra vision may differ. Communicating a clear vision may still reduce some resistance to change. Understanding why the system is going to be changed has been described as important in order to reduce resistance to change. A clear vision may help doing specifically that.

It is important to adjust the language and the vision depending on who one is talking to. Using imagery language can be efficient on the operational level. Rather saying that it is going to be easier for the truck drivers than saying that the revenue will increase with x percent is an example of adjusting the language to the recipient.

Milestones and targets

Milestones and targets have not been communicated to a large extent at the interviewed companies. For those that have explained that they communicate milestones and targets, most of this communication has been done upward in the organization and not to those on the operational level.

One interviewee expressed the importance of communicating when the project is done, otherwise the employees may think that the ERP project just goes on and on. Not solved issues at that point should be transferred to a new much smaller improvement project.

Maximize perceived net outcome

Several of the different tools in the research model are ways to maximize perceived net outcome. For example education, when you gain more knowledge in the new system you reduce some fear towards it and you start to see the benefits of the system. This improves the perceived net outcome of the change. However, from the interviews, no other specific efforts in maximizing perceived net outcome have been seen.

Adjust expectations

From the interviews at least three different aspects of adjusting expectations connected to an ERP project have been identified. First, the expectations of the new system can be adjusted. Companies often go from a relatively old and highly customized system to a new more standardized one. For some end users this may result in more complex or time-consuming work processes. The new standardized system may not support exactly all specific work processes from the beginning and some improvement projects may need to be conducted after the go live. By explaining this in the beginning of the project, the expectations on the new system can be altered. This may reduce some resistance if the employees are more mentally prepared for the new system. One interviewee on the operational level described colleagues who talked about the new system before the go live as something that would solve all different kinds of problems. This is usually not the case and can create more resistance at the time of go live if those expectations are not altered.

Another aspect of adjusting expectations relates to the ERP project itself and how much time it takes. An ERP project is harder than many people imagine. Before employees join the project group it is important to explain how much time it will demand at some phases of the project. To know how much time the project will take is both important for the person itself but also for his or her manager. The manager needs to be aware of how much time the ERP project will take from his or her employees in order to be able to make plans on how to handle this from the beginning. Some interviewees have described middle managers that have been resistant to the ERP project for this reason. To manage this problem several interviewees have described back filling as a good strategy. This means that some of the easier work tasks are temporarily taken over by someone beneath that person in the organization. That person hands over some of his or her work tasks further down in the organization and so on. Extra employees are temporarily brought in to conduct some of the easiest or least critical work tasks during peak times of the project.

The everyday work tasks normally take longer time to conduct in the beginning after the go live, both because of initial problems that need to be solved and

because it takes more time for the end users until they have learned to use the new system as quick as they used the legacy system. This challenge is also something that needs to be communicated in order for the end users to be mentally prepared for a tough period after the go live. One interviewee expressed the importance of also preparing employees who do not work in the system, but are affected by delayed processes caused by the new system, of this problem.

The expectations on each department in respect of throughput or efficiency could also be lowered to reduce the initial stress and resistance during the first period after the go live. However, at the interviewed companies this is not something that seems to have been done.

Monetary and non-monetary incentives

The topic monetary and non-monetary incentives have not been well addressed during the interviews. The interviewees commenting this topic have expressed concerns for bonuses connected to the project, which are monetary incentives. These concerns regard the challenge of aligning the bonus to the right KPI, Key Performance Indicator, to not create any conflict of interest between personal gains and what is best for the project. Also the issue if bonuses are not something the company normally uses has been seen. In this case the bonuses are another new thing to introduce in a stressful period. This aspect can be related to the culture, bonuses are probably not as common in Sweden as it is in some other countries.

5.1.3 Other

In this section, topics not part of the research model but identified during the interviews will be addressed.

First, a couple of interviewees have addressed the importance of short response times of support during the first days after go live to decrease resistance to the new system. No matter how much you educate and plan, there will be some initial problems. A structure for efficiently managing those problems can make the first days working with the new system smoother and by that cause less resistance to change.

If business process engineering, BPR, needs to be done connected to the new ERP system, this should be done separately from the ERP project according to a couple of interviewees. The reason behind this is to avoid the risk of the new ERP system taking the blame for the additional stress the BPR may create. Cases have been seen where several major changes took place at the same time as the ERP project and the employees blamed the new system for all negative stress they experience during that period. That increases the resistance towards the new system. Instead as many changes as possible should be done before the ERP project.

5.2 Theory compared to empirics

In the theory section the research model was presented (see Figure 11). In this section this initial model with the included tools will be further developed based on the findings from the empirics.

5.2.1 Top management support

In the theory section top management support was concluded as important throughout the whole ERP project in order to reduce resistance to change. This is in line with the result from the interviews. A majority of the interviewees stated that top management support has been important for managing resistance to change in the project.

In the theory it was also concluded that the top management's commitment to resources is important. The top management should allocate time and resources to the project. Several interviewees have confirmed that if not enough resources are freed up, resistance is likely to arise. This will be further discussed in the involvement section below.

In the empirics several interviewees mentioned the importance of management support. Even if top management support is important, the personnel is often most influenced by their nearest manager. Therefore the authors would like to introduce a new tool called "management support". Management should, as well as top management, convince the users on why the new system needs to be introduced and earn their trust. The management support is important throughout the whole project on the operational level.

5.2.2 Communication

It is concluded in both the theory and empirics section that communication reduces resistance to change. Communication is a key in most change management models and all interviewees mentioned communication as important during the open ended question phase in the interviews.

Communication is a keystone that several of the other tools depend on. The top management needs to communicate that they support the organization, the vision needs to be communicated and to adjust expectations one needs to communicate. Communication is also a way to reduce the fear for the new system.

5.2.3 Training and education

The theory and empirics regarding education is in line with each other. Both propose the usage of super users, states education as important to reduce resistance to change and concludes that education is often postponed.

During the interviews a common trend was revealed. All companies use and plan for education in the project. However, the education is often postponed and not sufficient. The reason to this is lack of time, which equals resources. If one wants to reduce the resistance, investment in form of time and money is needed. In order for this to be done, support from the top management is needed. It should

be known from the beginning what is needed, in form of time and money, to establish conditions that is less likely to cause resistance to change.

5.2.4 Involvement

In the theory section it is concluded that people involved in the ERP project are not threatened by the new system to the same extent as the people who are not involved. Thereby the involved people become less resistant. As described in the empirics above, the interviewees have also felt that the involved people tend to be less resistant.

During the interviews a common concern has been that it is hard to free up time for the involved people. Many managers do underestimate the time really needed in the project and people are often “duplicated”, with respect to working both in the project and conducting the day-to-day work tasks. The problem with not enough resources has also been addressed above as an issue when education should be done. Since this is a common concern and not has been addressed specifically in the theory section before, the authors would like to introduce a new tool for the research model called “Free up resources”.

Free up resources is important for different individuals during different phases of the ERP project, which is why this tool is placed under all of the three phases in the research model. This is a tool for reducing resistance to change on the operational and tactical level of the organization.

5.2.5 Feedback and delegation

In the theory section it is concluded that working with feedback and delegation can reduce resistance. However, this has not been concluded in the empirics. Some interviewees even said that delegation could create too much work load for some employees who then will get resistant.

When the workload is manageable, delegation could be used as a tool to decrease the fear for the system since people get a better understanding when they are part of the change and able to give their feedback. When people are able to give their feedback their perceived net outcome can also be increased.

The authors believe that feedback and delegation is important to use, but not as a specific tool. Instead feedback and delegation is placed as a part of the “involvement” tool, since those two tools are similar to each other.

5.2.6 Encourage official and unofficial leaders

In the theory section it is described that official and unofficial leaders can be used to influence other people. This is a way to enhance the work with increasing peoples’ perceived net outcome. The interviewed companies have not used this tool actively. They have used official and unofficial leaders, but not with the purpose to influence others.

Since encourage official and unofficial leaders can be a tool for making peoples net outcome positive and thereby reduce their resistance, the authors believe that the companies should use it in a greater extent. The official and unofficial

leaders are already in place in the organization, they do not need to be created. The only difference is that they should get a clear agenda of what work to conduct. The first step is to make them positive to the project and the second step is to encourage them to influence others.

5.2.7 Vision

A clear vision has been described as a way to reduce resistance to change in both the theory section and in the empirics. However, during the interviews it was not believed that a vision is crucial for handling resistance to change.

When it is decided that the legacy system will be replaced, it is important that the decision is backed up by an organizational need or problem. Otherwise the decision could be incorrect. At this stage the vision is already formed. The vision answers the question why the system is going to be changed. It could be that simple.

It was concluded during the interviews that, when the vision is communicated, one should adjust the language depending on to whom one is talking to. This can be seen as that one could use a different vision for different parts of the organization, but of course with the same underlying message.

5.2.8 Milestones and targets

According to the theory, milestones and targets should be used in order to keep the motivation high and to continually focus on the positive aspects of the change. In this way the resistance to change should be decreased. However, at the interviewed companies, milestones and targets have not been used in a greater extent.

The reason to this could be that in the reality it is very hard to measure the improvement the new ERP system has contributed to. In some productions, at some processes, productivities are measured. In those occasions, the improvement can be measured since a base line exists. However, that is often not the case. An ERP system often includes all parts of the company and therefore also administrative tasks where the use of productivities is not that common. In these parts the improvement is hard to measure and the usage of milestones and targets is not easy.

Instead the company could use easy to understand milestones and targets that do not have to be measured in detail. Instead of using a target that a productivity should be increased by X %, a better target could be that all orders should be managed without assistant from the consultants on a specific date. A milestone could be when the new system is managed with the same amount of personnel as before and without overtime.

5.2.9 Maximize perceived net outcome

It is clear from the theory section that the users' perceived net outcome needs to be positive in order to reduce the resistance.

As described in the empirics above, several of the different tools in the research

model ad up to maximizing the perceived net outcome. However, none of the interviewees have actively worked with maximizing the perceived net outcome as a target. Instead they have worked with it unconsciously, through other tools in the research model such as communication and education.

The authors believe this tool to be important since it is a way to solve the root cause to the resistance to change. Even if this tool is addressed through other tools as communication and education and lacks its own tools, it is believed to be important to have in mind. All work with resistance to change should have an underlying purpose to maximize the perceived net outcome. One should always think, *“this is why we do all the work with change management”*. However, since it is not a tool itself, it will be removed from the research model.

5.2.10 Adjust expectations

In the theory section it was described that adjusting the expectations on the performance after go live and being open and honest about the change, can reduce the resistance to change. In the empirics several interviewees confirm this.

During the interviews and in the theory, only one sign on that adjusting expectations not should decrease resistance to change has been seen. If a lot of employees are planned to be terminated as a result of the ERP project, this should not be communicated beforehand since it will increase the resistance to change and make the project hard to manage, according to some interviewees.

5.2.11 Monetary and non-monetary incentives

Even if the usage of monetary and non-monetary incentives has been addressed as a way to reduce the resistance to change on the strategic level in the theory section, none of the interviews believe this as a good way to work.

The authors believe that this could be a cultural thing. The interviewed companies are, even if international, based in Sweden. The Swedish culture is not very known for bonuses and piecework contracts. The use of monetary and non-monetary incentives could be suitable for other countries and cultures but this needs to be further investigated. However, since it has not been seen as a good tool to use in the empirics, it will be removed from the research model.

5.2.12 Result of the analysis

The changes in the initial research model described for the different tools above are presented in Figure 13. As can be seen in the figure a couple of tools have been removed and new tools have been added. The removed tools are highlighted in red and the new tools are highlighted in green.

	Pre implementation	Implementation	Post implementation
Strategic level	<ul style="list-style-type: none"> • (Top management support) • Communication • Monetary and non-monetary incentives 		
Tactical level	<ul style="list-style-type: none"> • Top management support • Communication • Involvement • Vision • Free up resources 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Encourage official and unofficial leaders • Adjust expectations • Involvement • Vision • Milestones and targets • Free up resources 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Encourage official and unofficial leaders • Adjust expectations • Milestones and targets • Free up resources
Operational level	<ul style="list-style-type: none"> • Top management support • Communication • Involvement • Vision • Feedback and delegation • Maximize perceived net outcome • Free up resources 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Encourage official and unofficial leaders • Involvement • Maximize perceived net outcome • Adjust expectations • Feedback and delegation • Vision • Free up resources 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Milestones and targets • Encourage official and unofficial leaders • Maximize perceived net outcome • Adjust expectations • Feedback and delegation • Free up resources

Figure 13. The re-evaluated research model

5.3 Proactive vs. Reactive approach to reduce resistance to change

During the interviews a better understanding of how companies actually work with resistance to change was developed. A common trend among the interviewed companies is that they handle resistance to change reactively. Most of the companies lacked a clear agenda on how to work proactively with resistance. Instead they took actions when the problems with resistance arose.

The initial research model focuses more on how to work with resistance to change proactively, to take action before the actual resistance occurs. Based on the interviews there is a need for developing tools to use once you face the problem with resistance. Also, even if the work with reducing resistance to change is done proactively, unexpected resistance to change can occur. This resistance then needs to be handled reactively.

Since there is a need of both working proactively, which is done with the use of the initial research model, and reactively with resistance to change, an additional model (see Figure 14) has been developed. This model is a result of this research and is described below.

5.4 A model on how resistance to change can be reduced reactively

The first step when resistance to change occurs is to identify and understand why it occurs. What are the needs and interests of the resistant people?

From theory most of the reasons for resistance to change were connected to Beckhard and Harris' change formula. Several of these reasons have also been mentioned in the interviews. These reasons can be summarized in the term *perceived net outcome not positive*. During the interviews another source of resistance to change was identified, *fear for the unknown*. This fear can be a problem even if the perceived net outcome is not negative, which is why another main reason for resistance to change needs to be introduced, *fear for the system and the change process*. The solution to these root causes are "Maximize perceived net outcome", which has been described before, and "Create emotional security", which is new. These solutions do not tell us how to actually act. Instead the tools from the initial research model are tools for creating those solutions. In Figure 14 the structure of the problem, the root causes, the solutions and the tools are shown.

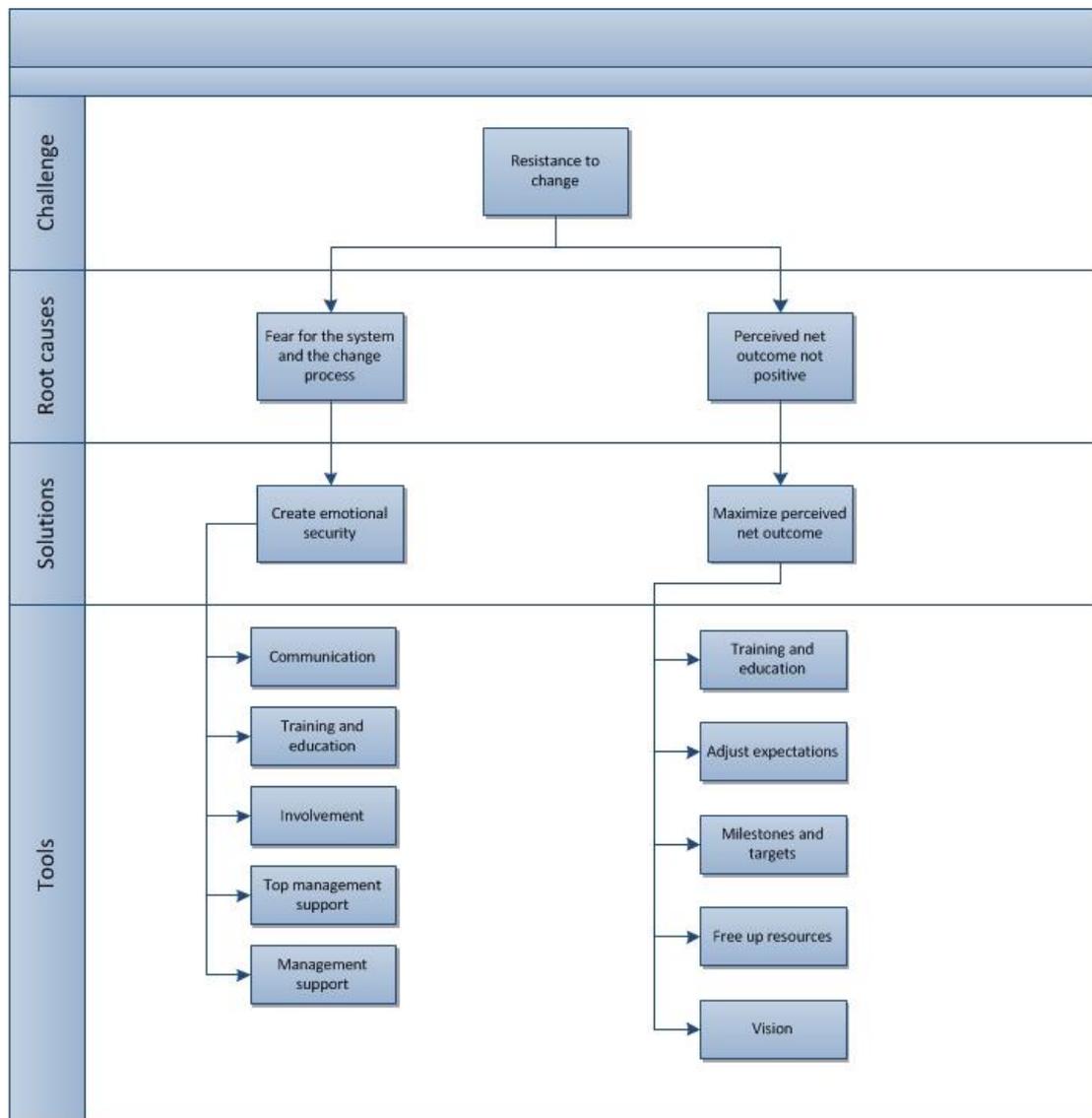


Figure 14. How to handle resistance to change reactively

5.4.1 Root causes to resistance to change

Fear for the system and the change process

Many people are scared for the unknown and feel that it is uncomfortable to know that a change will occur but not know what will happen and when it will happen. This fear can by itself cause resistance to change. The reasons for resistance to change that are included in this root cause are situations where the new ERP system will not mean any deterioration for the individual. The resistance is caused by the fear of the change, the change process and the fear of not knowing what will happen.

Perceived net outcome not positive

This reason for resistance to change origin from Beckhard and Harris' change formula described in the theory section. People can be resistant when the level of dissatisfaction with the status quo, the desirability of the proposed change and

the practicality of the change is less than the “cost” of changing. These factors need to outweigh the perceived effort needed to change in order for that individual to not develop resistance to the change.

As described in the theory, Cameron and Green propose a variant of Beckhard and Harris’ change formula, which implies that even if only one of those three parameters has a perceived value close to zero, the person will develop resistance to change. This means that if a person is resistant it could be only one of the parameters that needs to be improved.

The situations placed under this root cause are situations where there exists a real risk of deterioration for the individual caused by the new system or the project process. For example when a person is an expert on the current system and will suddenly be on the same level as everybody else, at best. These people can be resistant because they may lose their unique value to the company.

5.4.2 Solutions to the root causes

Create emotional security

The solution to that people tend to fear the new system or are threatened by it, can be handled by creating emotional security for these people. As described in the theory section, lack of trust in management and lack of information are reasons that can create resistance towards the change process. Therefore are *top management support*, *management support* and *communication* tools for creating emotional security. The fear of not knowing how to conduct ones work tasks is mentioned above as a source for resistance and this problem is helped by *training and education*, which is why this tool also is a tool for creating emotional security. By being part of the change process the fear for the process may be reduced, which is why also *involvement* is a tool for creating emotional security. The tools to use when trying to create emotional security are shown in Figure 14.

The tools should give the users more knowledge about the change and support them in order to make the change more comfortable. These things can create emotional security and thereby reduce the resistance to change.

Maximize perceived net outcome

The change management work should not only focus on making the users’ perceived net outcome positive, it should try to maximize it. In some occasions it can be hard to prove for the individual how the new system will enhance their work. Then the overall picture needs to be explained and hence, communication is also a tool for maximizing the perceived net outcome. Several interviewees described lack of time as a source for resistance. By the use of the tool *free up resources*, the practicalities of the change can be improved, which improves the perceived net outcome according to Beckhard and Harris. *Adjust expectations* is another tool closely related to this task. If resources cannot be freed up, the expectations need to be lowered in order to improve the practicalities of the change. *Milestones and targets* can be used to easier visualize or communicate the benefits of the new system, which improves the desirability of the end state.

In the theory section, the use of a *vision* is another tool concluded to improve the desirability of the end state. It is during *training and education* the end users may see the benefits of the new system. Therefore this is also a tool for maximizing the perceived net outcome. The tools to use when trying to maximize the perceived net outcome are shown in Figure 14.

5.4.3 Tools

Once the main root cause and solution are identified, a deeper understanding of why the person is resistant is needed in order to efficiently manage the resistance and choose the right tool to use in doing so. One interviewee described informal meetings with the resistant people as a way to get a deeper understanding of why they are resistant. One example in doing so is joining these people for lunch in the company canteen. The specific description of each tool can be found in the previous section.

The tools not part of the second research model may still be tools for either maximizing the perceived net outcome or creating emotional security. However, the authors do not see any clear connections between those remaining tools and the two solutions, which is why these tools are left out. Further research on those tools needs to be conducted in order to investigate if also they may help to create emotional security or maximize the perceived net outcome.

6. Conclusions

In this chapter the models for reducing resistance to change will be presented and the including parts explained. In the end, a brief discussion on future research will be found.

From this research two models on how to reduce resistance to change have been developed. In this chapter both final models will be presented. Following the models will all including tools be explained. The tools will only be explained once since they are the same for both models.

In the end of this chapter thoughts on future research will be discussed.

6.1 How to reduce resistance to change proactively

The first model is a further development of the research model described in the end of chapter 3. This model can be seen as guidance on how to work proactively with resistance to change on different levels in the organization and in different phases of the project. The purpose is to use this model *before* resistance to change occurs. This model can be seen in Figure 15.

	Pre implementation	Implementation	Post implementation
Strategic level	<ul style="list-style-type: none"> •(Top management support) •Communication 		
Tactical level	<ul style="list-style-type: none"> • Top management support • Communication • Involvement • Vision • Free up resources 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Encourage official and unofficial leaders • Adjust expectations • Involvement • Vision • Free up resources • Milestones and targets 	<ul style="list-style-type: none"> • Top management support • Communication • Training and education • Encourage official and unofficial leaders • Adjust expectations • Milestones and targets • Free up resources
Operational level	<ul style="list-style-type: none"> • Management support • Communication • Involvement • Vision • Free up resources 	<ul style="list-style-type: none"> • Management support • Communication • Training and education • Encourage official and unofficial leaders • Involvement • Adjust expectations • Vision • Free up resources 	<ul style="list-style-type: none"> • Management support • Communication • Training and education • Milestones and targets • Encourage official and unofficial leaders • Adjust expectations • Free up resources

Figure 15. The final research model

6.2 How to reduce resistance to change reactively

The second model can be seen as a tool to use when one is facing resistance to change and it needs to be handled reactively. The purpose is to use this model *after* resistance to change has occurred. The first action to take is to understand why the people are resistant before further actions can be taken. This model can be seen in Figure 16.

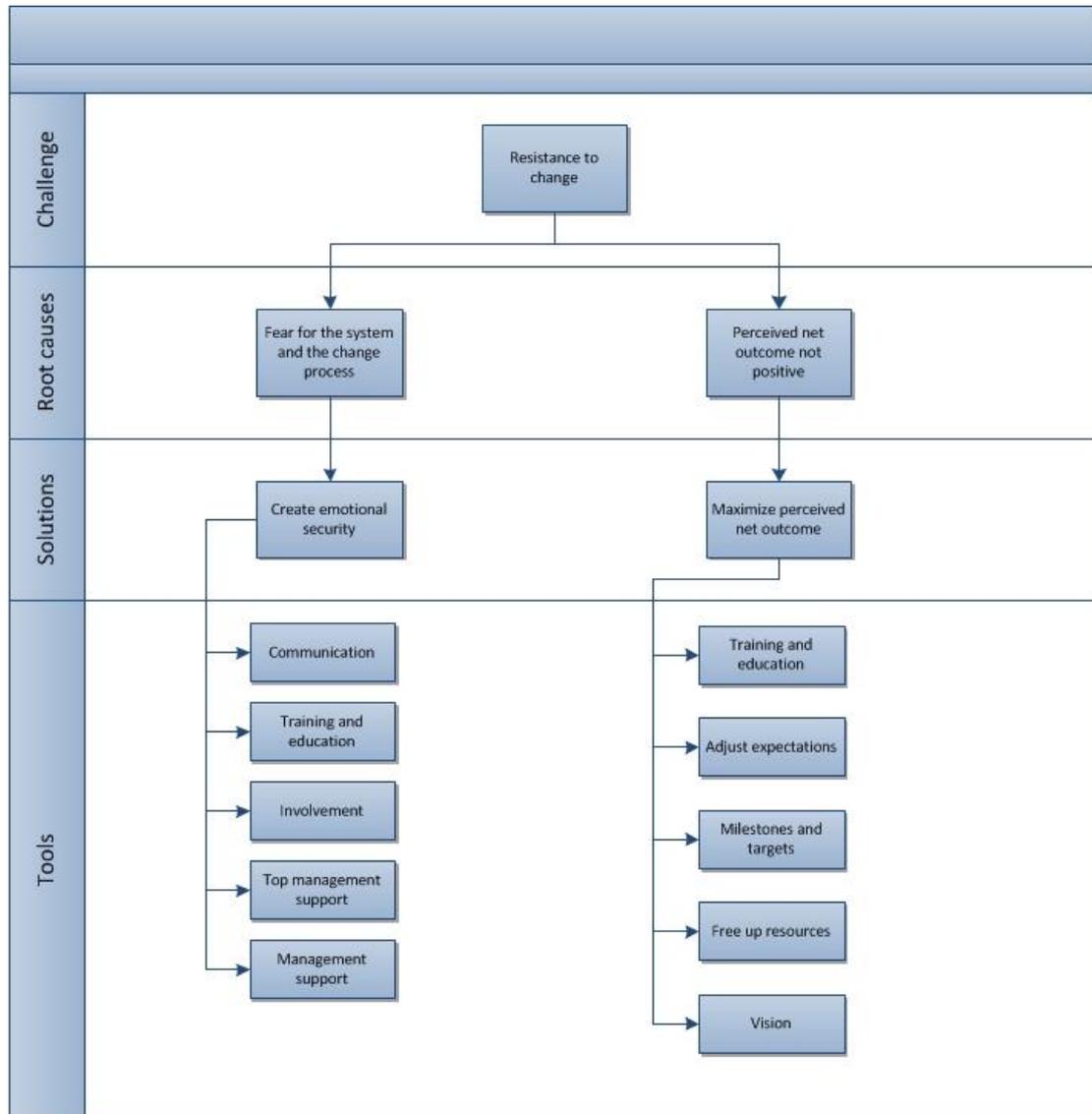


Figure 16. Model for reducing resistance to change reactively

6.3 Tools for reducing resistance to change

Below will each of the including tools be explained in detail, what they mean and how to use them.

6.3.1 Top management support

Initial support

The first thing to secure, in the pre implementation phase, before the ERP project starts, is that the project is supported by the top management. If this is not the case, the outermost liable person needs to be tough and explain that the ERP implementation is not negotiable.

Active support

The top management should not only passively support the project but need to actively do so. The top management should take part in the project, help to solve problems, drive change processes and actively take part in the communication of the project downward in the organization. The goal should be to earn the employees' trust and to convince them that the new system is good.

The top management should support the end users as well by continuous communication and not only once in the beginning of the project. The support by communication is a continuous process throughout the whole project.

Allocate time and resources

The support is most important for the middle level managers and the project group. The top management needs to ensure them that the project is top priority and help them with allocating and freeing up resources.

6.3.2 Communication

Continuous communication throughout the whole project

The project should be communicated early, in the pre implementation phase. The communication should go on during the whole project. The use of a formal communication plan can help this task. Updates on what is happening right now and what is planned to be done in the near future should continuously be communicated.

In the beginning of the project a short and illustrative presentation of the new system should be given. Focus on communicating the benefits of the new system. The scope, activities, updates and information about that change will occur should be communicated already in the pre implementation phase. The communication should be maintained throughout the whole project, especially to those who are not directly involved in the project. It is important to communicate what is expected at every phase of the implementation. To ensure this communication, status updates can be used. It is good to use several communication channels, an email is not enough. Instead, spread the information at internal meetings, town hall meetings and through graphics in the company canteen or on information boards.

Adapt the communication to the recipient

The way one communicates should be adapted depending on who the recipient is. Use a language that is easy to understand and relate to for the recipient. Use short and crisp messages to really communicate the core message of the project. Pictures are also a good thing to use when communicating the message.

Two-way communication

The communication should be a two-way channel, communicate to the employees and then listen to their concerns and viewpoints. Encourage them to give their concerns and viewpoints.

Communicate to all levels in the organization

The communication should reach all levels in the organization. To communicate to one level and then assume that everybody will get the information is not enough. Secure that all employees get the information by emphasize the importance to spread the information further in the organization to the people that get the information.

Honest communication

Do not hide information, do not be afraid of communicating the problems. Instead communicate the problems with a positive touch, clarify that the problems will be solved.

6.3.3 Training and education

Educate early

It is not possible to educate the users in the new system until the system is ready, however, the users should be given a glimpse of the interface and major functions early in the project. At these sessions consultants or the project group should present the new system and the interface.

Education in both the new system and the new processes

Formal training sessions, with an agenda, should be used. However, the users should be given time to “play around” in the system before go live as well. The education sessions should be mandatory for all users. The sessions should focus on how the new system works but also on the new business processes and flow of information. Time and resources are essential factors for education. The users should be given time to learn the new system. This is not possible if resources are not freed up.

Super users

Super users that get education before the rest of the users could be used. There should be a clear goal for these super users to educate and support the rest of the users.

Continue the education after the go live

The education should continue after go live with follow up meetings. At these meetings potential improvements should be discussed and potential problems due to lack of knowledge identified.

6.3.4 Involvement

Involve resistant people to reduce resistance

It is important to involve people in the project. Do not hesitate to involve people that tend to be resistant to change, it could even be good to actively choose to involve these people.

Involve the users both in the design and the implementation phase, which means in the pre implementation and implementation phase. However, do not only involve people when their information is needed in order to design the change, also involve them with the purpose to reduce their resistance to change.

Do not forget to involve people that are not super users or process owners

It is obvious that super users or process owners are involved in a greater extent than the rest of the employees. However, try to involve the rest of the employees as well. This could be done through smaller sessions with two-way communication where the employees can give their opinions.

Give feedback

Give the involved people feedback on their work as well as listen to their feedback on the project. Also, do not be afraid to delegate tasks and responsibilities to the super users and process owners.

6.3.5. Encourage official and unofficial leaders

Secure support from opinion leaders of influential groups. This could be done by acknowledging the importance of the leaders' role in the project.

Unofficial leaders are often part of the project group, as super users or process owners. However, these people should be given a clear agenda and the task to sell the system to the rest of the users should be delegated to them. Other tasks should be delegated to these people as well. Even a dedicated positive person with the task to promote the system can be used.

6.3.6 Vision

Develop a clear vision

A clear vision that makes all concerned people understand why the legacy system is going to be changed is needed. The need for the change should be clearly defined and it is important that the decision is backed up by an organizational need or problem.

Communicate the vision

The vision, as well as the goals and objectives of the project need to be shared with the whole organization. Use all of the company's communication channels to really incorporate the vision. As with the communication, the vision needs to be adjusted depending on who the recipient is, but of course with the same underlying message. Using imagery language to communicate the vision can be efficient on the operational level.

6.3.7 Milestones and targets

Use tangible milestones and targets when applicable

It is important to communicate when the ERP project is considered as done and the continuous improvement phase begins.

If a base line of productivities exists, setup milestones and targets according to this. Remember that the performance is likely to drop in the beginning after go live. Use a target that for example the productivity should be increased by X % a time after go live.

Use intangible milestones and targets

When no base line exists, use easy to understand milestones and targets instead. It could be that all orders should be managed without assistance or help from consultants or back fillers by a certain date. It could also be that the same amount of work that was done before the ERP project should be done with the same amount of resources, without overtime.

6.3.8 Adjust expectations

Be open and honest – not all processes will be improved

Depending of the status of the legacy system the expectations of the new system may need adjustment. If the legacy system is customized and well-functioning, and the new system is standardized, this needs to be explained in the beginning of the project. Be open and honest and explain that the new system could or will make some processes more time-consuming, if this is the case, and focus on explaining the overall benefits.

Clarify that the project is a demanding process

Be clear about that the ERP project is a demanding process and that a lot of time is needed. Also try to specify how much time that is needed in each phase or at least which phases that are more demanding for different employees.

Prepare for an initial break-in period

Explain that the everyday work tasks normally take more time to conduct in the beginning after the go live and that the performance improvements will not come right away. Communicate that there is both a learning curve and that initial problems with the new system may occur. The fact that the processes may take more time to conduct in the beginning after go live needs to be communicated to those who do not work in the system, but is affected by the system, as well.

6.3.9 Management support

Every manager needs to support his or her part of the organization. Remember that the employees tend to listen to their nearest manager. Therefore all managers need to be positive to the change and even if they are not, they need to be positive when they communicate to the users.

Active support

The goal should be, as well as for top management support, to earn the employees' trust and to convince them that the new system is good. The work should consist of continuous communication throughout the whole project.

6.3.10 Free up resources

A lot of the other described tools depend on this tool. In order to conduct proper training and education and to involve the right people, enough time and resources are needed. This can be done with investment of money in form of backfilling of personnel and usage of temporary workers.

The top management is outermost liable for the project and should ensure that the right amount of resources are freed up. The top management should also help the middle level managers with allocating the resources.

6.4 Concluding discussion

Some concluding remarks, the purpose and objective of this report are well fulfilled. The objective was to develop a model on how resistance to change could be reduced in an ERP implementation project based on theory and then further develop this model through interviews, which has been done. The purpose with the interviews was also to develop deeper insights into the challenge of resistance to change in reality. This purpose was also fulfilled, both through the development of deeper understandings on how each tool can be used in reality and through the development of the second research model, the reactive approach.

In hindsight, one person at each level at each company should have been interviewed to further increase the empirical base for analysis. This was however hard to achieve due to lack of people available for interviews at some of the companies.

On the other hand, relatively few major changes were done in the initial research model. This indicates that a thorough literature review was conducted, that the set of interviewees were representative and that their viewpoints matched the theory to a large extent. Worth mentioning is however that since the approach in this report have been qualitative, the results are not statistically proven. This is further discussed in the future research section below.

6.5 Future research

This research has taken its starting point in existing research within the field of resistance to change in ERP projects and developed a model on how to reduce resistance to change based on the literature review. This model has been further developed with in depth interviews. The interviews also lead to a second model on how to reduce resistance to change. The empirical data is pure qualitative whereby a quantitative approach is proposed for further research. This in order to statistically investigate the accuracy of the developed models from this research.

Also, as concluded in this research, time and resources are crucial for creating an environment not likely to create resistance to change. Another proposed research topic is therefore to investigate how much money resistance to change cost a company during an ERP project. This in order to know how much money it is worth spending on activities that reduce resistance to change in an ERP project.

Finally, the authors see a future research opportunity to further develop the tools in the research models with case studies. With well-conducted case studies, a deeper understanding on how the ingoing tools affect resistance to change and how the tools interact may be found.

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Appendix

Below are the two interview guides provided. Since all of the interviews were conducted in Swedish the interview guides are presented in Swedish.

A. Interview guide for people on strategic and tactical level

Fas 1 – Introduktion

Kort introduktion av oss som intervjuare

- Varför vi är här; studenter som gör examensarbete
- Kopplingen till Tacticus i de fall vi har fått intervjun via kontakt från Tacticus.

Presentation av vårt forskningsperspektiv

- Vi tittar på motstånd till förändring i samband med ERP-projekt
- Visning av ramverket för vår modell utan innehåll. Vi undersöker hur man hanterar motstånd till förändring i olika faser på olika nivåer i företaget

Kort introduktion av intervjupersonen

- Berätta kort om din roll här på företaget och ert ERP byte
- Om inte följande finns med i introduktionen så ställs följande följdfrågor:
 - Vilken roll har du haft i ERP-projektet/projekten?
 - När genomfördes projektet/projekten?

Fas 2 – Generella frågor

- Har motstånd till förändring varit ett problem?
- Hur har ni arbetat med att minska motståndet till förändring?
- När började detta arbete?
- Om ni skulle gjort projektet igen, skulle ni gjort något annorlunda för att bättre hantera motstånd till förändring?

Invävt i avsnittet ovan är lämpliga följdfrågor beroende på vad intervjupersonen berättar

- Varför?
- På vilket sätt?
- Kan du utveckla?
- Vad var resultatet av det?

Fas 3 – Explicita frågor

Explicita frågor på de verktyg i modellen som inte tagits upp så här långt i intervjun genom de generella frågorna.

Kommunikation

- Hur har ni arbetat med kommunikation?
- Tror du detta har bidragit till att minska motstånd till förändring?

- När har detta gjorts?
- På vilken nivå?

Stöd från högsta ledningen

- Har det funnits stöd från högsta ledningen?
 - Har det funnits stöd från början eller hur har ni fått det?
- Tror du detta har bidragit till att minska motstånd till förändring?
 - På vilka nivåer?

Utbildning

- Hur har ni arbetat med utbildning?
 - När har detta gjorts?
- Tror du detta har bidragit till att minska motstånd till förändring?
 - Skulle ni gjort något annorlunda?

Vision

- Har en tydlig vision kommunicerats?
 - När har detta gjorts?
 - Till vem har detta gjorts?
- Tror du detta har bidragit till att minska motstånd till förändring?

Involvering

- Har personer utanför projektgruppen varit involverade i projektet?
 - På vilket sätt?
 - När blev de involverade?
- Har ni sett någon skillnad i hur motståndskraftiga personer har varit till projektet beroende på hur involverade de har varit?

Uppmuntra officiella och inofficiella ledare

- Har officiella och inofficiella ledare uppmuntrats att sälja in projektet till personer i sina delar av organisationen?
 - När gjordes detta?
- Vad har detta haft för resultat?

Anpassa förväntningar

- Har förväntningarna på er avdelning sänkts i samband med projektet?
- Har det kommunicerats att arbetsuppgifter kommer ta längre tid i en övergångsfas när det nya systemet introduceras?
 - När kommunicerades detta?
 - Har detta minskat motstånd till förändring? /Tror du detta skulle ha minskat motstånd till förändring?

Delegering

- Har ansvar i projektet delegerats ut till personer längre ned i organisationen?
- Har ni sett någon skillnad i hur motståndskraftiga dessa personer varit jämfört med andra personer på samma avdelning?

- Tror du detta beror på att de var positiva från början eller på att de genom att få vara delaktiga ändrat inställning?

Monetära och icke-monetära incitament

- Har ni använt monetära och icke-monetära incitament för att ändra personers inställning till projektet?
 - Har detta fungerat? /Tror du det skulle fungera?
 - För vem har detta använts?

Milstolpar och mål

- Har ni mätt projektet och kommunicerat när mål uppfyllts?
 - Till vem/på vilken nivå har detta skett?
 - Vad har responsen varit?
 - När användes milstolparna?

Motivera vinsterna av projektet för individen

- Har ni försökt motivera vinsterna av projektet?
 - När gjordes detta?
 - På vilka nivåer?
 - Vad tror du effekten har varit av detta?

Avslutning

- Vet du någon annan person på företaget som vi skulle kunna intervjua?
 - Gärna någon på operationell nivå?
- Tack för att du tog dig tid till intervjun, det har varit väldigt värdefullt

B. Interview guide for people on operational level

Fas 1 – Introduktion

Kort introduktion av oss som intervjuare

- Varför vi är här; studenter som gör examensarbete

Presentation av vårt forskningsperspektiv

- Vi tittar på hur förändringar hanteras i samband med affärssystemimplementationer. Vi försöker belysa detta från olika perspektiv och det är därför det ska bli intressant att höra din bild av projektet.

Kort introduktion av intervjupersonen

- Berätta lite kort om din roll här på företaget och ert ERP byte.
- Om inte följande finns med i introduktionen så ställs följande följdfrågor:
 - Vilken roll har du haft i ERP-projektet?
 - När genomfördes projektet?

Fas 2 – Generella frågor

- Hur har du upplevt projektet?
- Hur har din inställning till det nya systemet varit?
 - Har den förändrats under tiden?
 - Vad tycker du idag om det nya systemet?
- På vilket sätt fick du reda på att systemet skulle bytas?
 - Önskar du detta hade skett på annat sätt?
- Borde projektet genomförts på annat sätt?
 - Hade detta ändrat din inställning till systemet?

Fas 3 – Explicita frågor

Explicita frågor på de verktyg i modellen som kommit upp så här långt i intervjun genom de generella frågorna.

Kommunikation

- Hur har det nya systemet kommunicerats till dig?
 - När gjordes detta?
- Har detta bidragit till att ändra din inställning till det nya systemet?
- Tycker du det borde skett på annat sätt?

Stöd från högsta ledningen

- Har det funnits stöd från din chef för projektet?
 - Hur tror du detta har påverkat dig?
 - Har detta stödet funnits hela tiden?

Utbildning

- När och hur har du blivit utbildad i det nya systemet?
 - Har det påverkat din inställning till projektet?

- Skulle utbildningen skett på annat sätt?

Vision

- Har en tydlig vision kommunicerats?
 - När gjordes detta?
 - Hur påverkade detta dig?

Involvering

- Har du varit involverad i projektet?
 - På vilket sätt och när har du varit involverad?
 - Hur har detta påverkat dig?

Anpassa förväntningar

- Har förväntningarna på er avdelning sänkts i samband med projektet?
- Har det kommunicerats att arbetsuppgifter kommer ta längre tid i en övergångsfas när det nya systemet introduceras?
 - När gjordes detta? / Borde detta ha gjorts?

Delegering

- Har du haft ett ansvar i projektet?
 - När har du haft ansvar?
 - Vad tycker du om detta?

Milstolpar och mål

- Har mål med projektet kommunicerats?
 - När gjordes detta?
- Har detta gjort dig mer motiverad för projektet?

Motivera vinsterna av projektet för individen

- Har fördelarna med det nya systemet kommunicerats till dig från ditt perspektiv?
 - När gjordes detta?
 - Har det påverkat din inställning till det nya systemet?

Avslutning

- Tack för att du tog dig tid till intervjun, det har varit väldigt värdefullt