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Implementation of Enterprise Resource Planning Systems: Point of View of Consultants

Master of Science Thesis in the Master's Programme International Project Management

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Division of Construction Management

CHALMERS UNIVERSITY OF TECHNOLOGY

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ABSTRACT

OBJECTIVE: This work contributes to the project management field of implementation of Enterprise Resource Planning systems. Research explores consultants' perspective on the implementation process, main challenges and how are they managed. METHODS: For this research qualitative method was chosen. Nine semi-structured interviews with ERP consultants in the Nordic region were performed and analysed using grounded theory and systematic combining.

RESULTS: Consultants have similar views on some issues: all of the respondents are keen to have competent and devoted people to the project team with enough authority for decision making. Education is often based on "train the trainers" concept. Consultants think system customizations should be avoided and packaged solution is able to fulfil most of requirements. Other attitudes vary between the types of consultant and largely depend on personal experience of size and profile of projects. Such topics as scope control, testing, education, peculiarities of international projects are discussed together with the issue of power and politics.

CONCLUSIONS: The dissertation suggest new angle for analysis of ERP implementation project. Such an approach can be used for further research concentrating on long-term observations and case studies. The research serves better understanding of each partner in implementation project which could be a solid foundation for effective conflict resolution.

Key words: information systems, Enterprise Resource Planning, ERP, consultants, methodology, politics

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List of Abbreviations

ERP = Enterprise Resource Planning

IT = information technology

BPR = Business process reengineering

R01… R09 = reference to one of nine research respondents as coded

1 Introduction

The quest for improving business processes and decision-making, integrating business units and their information flows has a long history. Information technology advancements enabled recent development in these spheres. The progress led to emergence of Enterprise resource planning (ERP).

Enterprise resource planning (ERP) systems are nowadays forefront in company-wide IT solutions. Despite difficulties in implementation, for large multinational companies ERP systems de-facto became a cutting edge standard that is replacing the legacy solutions that were installed for each business unit separately (Shanks, 2000, cited in Schlichter & Kraemmergaard, 2010). ERP systems are being implemented for at least last 20 years, yet an implementation of such a system is so complex that it comes with high costs and high failure rates. Apart from technological complexity of ERP systems the implementation is often accompanied by changes in business processes and organisational changes. Results of project influence everyday work of each and every employee. An example of expected changes is introduction of new working procedures together with modifications in daily responsibilities of employees. Such issues as resistance to change arise and need to be solved. All these factors sum up into puzzling and important for the future of the company project which represents a lot of challenges to its project managers.

The recent trend is to outsource development of such system to third parties, in particular to consultancy firms (Kumar, Maheshwari, & Kumar, 2003; Pollock & Williams, 2009). Assisting in the implementation as primary task of consultancies remains a big business that generates stable revenue growth (Pang, 2012 cited in '2013 ERP Market Share Update', n.d.). Thus, there is an on-going demand for improving the quality of delivery. With involvement of consultancy firm(s) the outcomes of implementation depend not only on the professional competence of two parties but also on the quality of interaction of involved players.

The project team is usually constructed from roughly half of client representatives and half of consultant representatives with usually two project managers assigned: one

from client side and another from consultancy firm. Existing academia publications reviewed for this dissertation are mostly client-centred. However, the interaction of client and consultant is a dynamic process during which the behaviour of one player shapes the actions of other. In order to understand it better the point of view of all players involved should be studied.

This dissertation **aims** to explore the consultants' attitudes towards various challenges of implementation project.

The **objective** is to study how consultants themselves see the process of implementation, what are the main challenges and how they deal with them. What is consultants' opinion about good client and how do they influence them? How rational is process of implementation?

For these purposes the qualitative research was performed based on grounded theory and systematic combining. The total of nine interviews with various consultants in Nordic region was made. The research is limited to consultants only since the literature review revealed lack of understanding in this area.

The structure of the dissertation will be as follows:

In the second chapter an attempt to explore the current state of academic publication on this topic was made. Critical review of selected literature is given which cover the introduction to ERP systems, its benefits and challenges in implementation. It also includes the implementation model ASAP. Special attention is devoted to the role of consultants in the current research. In the third research methodology is outlined, in particular the research question, research approach, ethical considerations as well as the way data was collected together with scope and limitation of study. The fourth chapter focuses on results emerged from data analysis and based on the number of categorises. Discussion of the results in relation to literature review is presented in fifth chapter. Finally, conclusions are summarised and suggestions for further research are given in the last chapter.

2 Literature Review

2.1 What is Enterprise resource planning?

ERP systems are "commercial software packages that enable the integration of transactions oriented data and business processes throughout an organisation" (Klaus et al., 2000, cited in Boonstra, 2006, p. 38). Integration of system is one of the most important characteristics of such a system. It means that "when data was updated on one module this would result in all systems being updated" (Pollock, p.23). Vision of ERP expressed by Xue at al. 2005:280 cited Pollock & Williams, 2009, p. 25) as "the enterprise connected and the systems interoperable". In the market of ERP solutions one of the companies stand out greatly. SAP is one of the largest software companies in the world and sole leader on the market of ERP solutions ('2013 ERP Market Share Update', n.d.). Representation of SAP functionality as compiled from SAP website is given in Table 2.1.

ERP Financials Solution	
Aims to streamline and automate your financial operations – while ensuring regulatory compliance and gaining real-time insight into overall performance.	Objectives: • Enhance your core financial capabilities and generate accurate reports in real time • Capture processes from different applications – for a single version of financial truth • Reduce cost of goods sold and maximize profitability • Ensure compliance with generally accepted accounting principles as well as local accounting regulations • Analyze customer behavior and sales to quickly identify

	and seize new opportunities
ERP Human Capital Management Solution	
Aims for better manage your most valuable asset – your people – with support for recruiting, onboarding, and administration to professional development and promotion.	Objectives: • Improve workforce efficiency, productivity, and satisfaction • Deliver best-in-class HR processes at the lowest possible cost • Predict and plan for future workforce needs and demands • Align corporate strategies with team and individual goals
ERP Sales and Service Solution	
Aims to support a wide range of customer-focused processes – from selling products and delivering services to aftermarket warranty claims, service orders, and returns.	Objectives: • Simplify and accelerate the entire order-to-cash cycle • Deliver orders on time and improve customer satisfaction • Streamline processes and reduce operational costs • Boost productivity and increase sales and profit margins • Benefit from profitable sales and interaction channels

<table>
<tr><td colspan="2">ERP Procurement and Logistics Execution Solution</td></tr>
<tr><td>Aims to maximize cost savings with support for your end-to-end procurement and logistics processes – from self-service requisitioning to invoicing and payments.</td><td>Objectives:
Streamline and optimize the flow of materials
Actively manage your end-to-end procure-to-pay processes
Reduce unnecessary stock and improve spend performance
Rely on a single, complete, and integrated solution</td></tr>
<tr><td colspan="2">ERP Product Development and Manufacturing Solution</td></tr>
<tr><td>Aims to accelerate your entire manufacturing process – from planning and scheduling to monitoring and analysis – while improving efficiency across your value chain.</td><td>Objectives:
Be first to market with innovative, high-quality products
Proactively identify and fix potential issues with real-time tracking and analysis
Quickly respond to changes in demand with accelerated planning and execution
Improve plant performance with real-time visibility into shop floor processes</td></tr>
</table>

ERP Corporate Services Solution	
Aims to streamline and gain greater control of your corporate services – from enterprise asset and quality management to travel, portfolio, and project management.	Objectives: • Tightly integrate your services with processes that span the enterprise • Maximize the transparency of your corporate services • Increase the efficiency and effectiveness of your business operations • Reduce financial and environmental risks – and enhance employee safety • Ensure that company policies are applied to all processes

Table 2.1 Current list of functions contained in SAP ERP package (adopted from 'Overview | ERP Software | Business Process | Solutions | SAP', n.d.)

Clausen and Koch (1999) cited in Pollock & Williams (2009) similarly characterise ERP as revolving around a triple version of enterprise: an economic view (as financial entity), the logistical view (as a system of material flows) and information view (as information flow.

Decision to implement ERP system is taken by various reasons. There are a number of advantages of such systems summarized by Helo, Anussornnitisarn, & Phusavat (2008):

1. Improvements in processes and better control over them.
2. Enhanced quality of processes as well as predictability of business.
3. Business processes become standardised across the whole enterprise.

4. Better transparency.
5. Improved integration of activities across departments.

However, such an improvement comes at high costs and also associated with a lot of risks. The following disadvantages are suggested by Helo, Anussornnitisarn, & Phusavat (2008):

1. It is troublesome to understand the logic behind ERP system (probably, it is mostly relevant for so-called "green field implementations" when the company implements ERP without any previous experience with it, with no legacy system).
2. There are difficulties in the implementation process that are most commonly related to change management, top management commitment, resistance to change.
3. Standard packaged solution provided by a vendor does not satisfy the business requirements.
4. Complexity
5. The system as it was selected, implemented or configured

Various challenges in the implementation lead to reported high failure rates of projects: IT Cortex LCC (2010) cited in (Basu & Lederer, 2011) reports findings of two surveys. According to the first, half of the 117 ERP implementation efforts failed to realize their business objectives. According to the other, 51% of organisations saw their ERP implementation as unsuccessful.

Organisations are facing classical make-or-buy decision (Simon, 2010). The first option is to develop enterprise solution in-house and use tailor-made unique system. This requires maintaining IT department capable of performing such a task. The second one involves buying the enterprise application software "in the box" from vendor and hiring implementing agency for its technical setup, configuration, integration and customisation. Various organizations much more often choose the second option and outsource the development and implementation to third-party firms, often referred to as system integrators (Kumar et al., 2003; Pollock & Williams,

2009). This trend can be easily spotted in the results of the study of Canadian organisations given in Table 2.2 (Kumar et al., 2003).

Implementation partners	Percentage of respondents
Consultant	83
ERP vendor	42
Hardware vendor	17

Table 2.2. Implementation partners (Kumar et al., 2003)

There are some companies that combine development and implementation in their structure. However, they are more regional players than global competitors. According to the research of DataDIA (2011), such companies are quite popular in Swedish market with market shares reaching:

- Hogia - 6.98% (#3 overall)
- Visma Administration - 5.74% (#4 overall)
- Visma Control - 4.5% (#7 overall)
- IFS - 4.11%. (#10 overall)

Since ERP implementation is a complicated undertaking and it is often accompanied by the changing of business processes, the management consultancies are invited to advice. They may have duties to support project management, change management or representing the business side in implementation projects with for example requirements definition. Generally a lot of parties can be involved in the implementation project. The possible division of responsibilities in described in Table 2.3

Actor	Role
Vendor	Develops enterprise software “in the box”

System integrator, implementer	Assists in implementing software from vendor, takes care of configuration and customisations, education and all other related issues
Management consultancy	Represents client side, assists in choosing vendor and implementer, project management, change management

Table 2.3 Possible division of responsibilities among players

The communications within the project organisation can become real challenge.

2.2 The process for ERP implementation

Two major players can be distinguished in the field of developing ERP implementation methodology: the academics and implementation consultants. The categorization is of course nominal since two are intertwined and are basing further work on each other's results. However, for the sake of categorization the separation between two will be saved.

2.2.1 Academic literature

Schlichter & Kraemmergaard (2010) studied publications related to the field of ERP research in major journals from 2000 to 2009. The paper is related to a lot of issues connected to ERP systems in general. Two of possible issues are seemed to be related to implementation: "implementation aspects" and "management and ERP issues". Now, what do authors mean exactly by these categories and can any conclusions about maturity of this academic field be actually made? According to authors, "Implementation" cluster incorporates all the papers related to selection of system, various phases of implementation and challenges related to them, critical success factors and business processes issues. Whereas "Management and ERP issues" in its turn relates to effects of implementation on management and organisation, in particular managerial issues arising, impact on the organisation, disputes about best practices, cultural matters of ERP and general understanding of ERP system. It was discovered that 30 per cent of them focused on implementation aspects, 20 per cent on

managing and ERP systems. So according to Schlichter & Kraemmergaard (2010), research field of ERP implementation reached certain level of maturity at least in numerical terms. Despite this optimistic view, the content of such publications varies substantially and lacks of agreement towards effective approach to implementation.

There are different classifications of implementation depending on various factors. Thus, Bradford (2010) defines four implementation methodologies depending on the speed of change:

- Phased implementation (also known as incremental or waved implementation) when the system is installed in the small part of organization, for example in the pilot department/geographical area or by functionality - one particular module. Then it is rolled out on the rest of enterprise.
- Big Bang implementation means dismissing the old business processes as well as legacy system at once.
- Franchising implementation with separate ERP systems installed in each of business units and shared processes (financials, HR) connected throughout the whole organisation.
- On-Demand implementation by utilising vendor hosted Software as a Service (SaaS).

When it comes to the implementation as a series of actions to achieve result, there are two main approaches described by Somers & Nelson (2004):

1. A factors view that concentrates on critical success factors influencing and even defining to a degree the overall outcome of project.
2. A process view that sees the implementation as staged process with its milestones and decision-making gates.

Studies on critical success factors are especially common.

Somers & Nelson (2004) suggest the integrated model of the ERP implementation. According to it, players (steering committee, implementation consultant etc.) and

activities (management of expectations, dedicated resources etc.) play dynamic role during different implementation stages. Authors try to quantify importance of players and activities at each stage of project by differentiating and comparing importance as perceived in current literature (hypothesized) and the one derived from empirical data (observed). Study resulted in identifying inaccuracies of expected and observed importance in such factors as:

- Vendor support and use of vendor's tools.
- Use of consultants.
- Change management.
- Minimal customisation.
- Education on new business processes.

Factors with least inaccuracies were management of expectations, top management support and project champion which gives a right to identify them as well-understood areas. It can be concluded that there is a gap in understanding of implementation process of researchers and business representatives.

2.2.2 Accelerated SAP

The biggest global player ('2013 ERP Market Share Update', n.d.) SAP uses Accelerated SAP (ASAP) "rapid implementation and on-going optimization methodology" (Kale, 2000, p. 270). The implementation is viewed as a rational step-by-step process and looks like standard project management lifecycle model applied to the peculiarities of ERP project (see Figure 2.1).

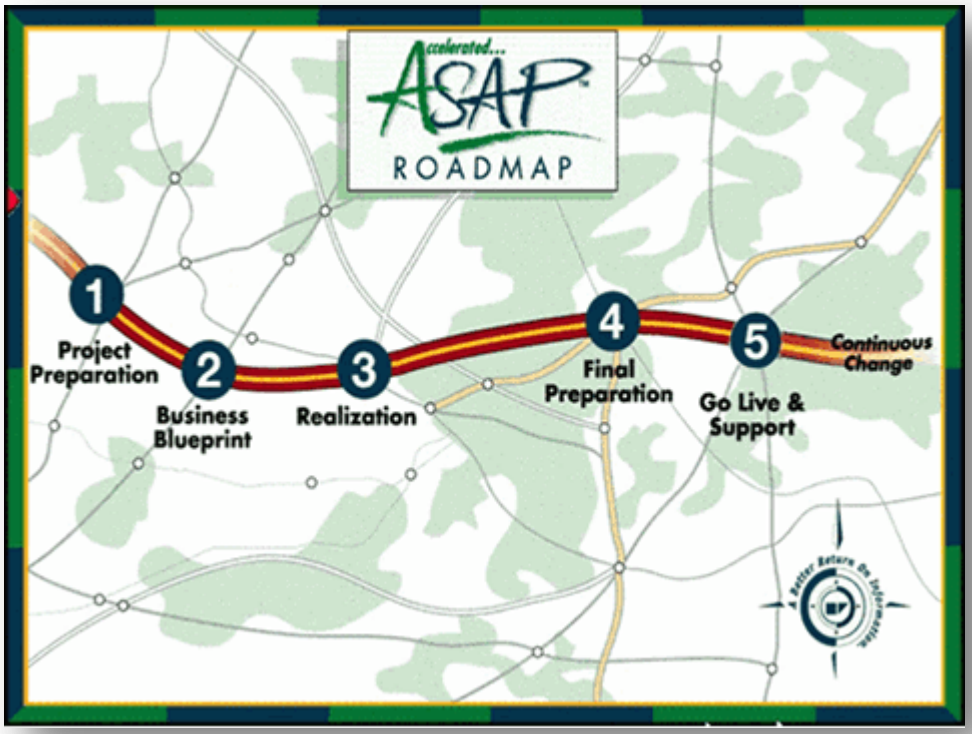

Figure 2.1 Accelerated SAP road map (Kale, 2000)

The road map consists of five main steps:

1. Project preparation
2. Business blueprint
3. Realization
4. Final preparation
5. Go Live and Support

Each of these steps and related to them activities will be now discussed in more details.

2.2.2.1 Project preparation

At this stage the project organisation is created and the roles and responsibilities are fixed to its members. Definition of the aims and objectives of the implementation takes place also. Team works on producing strategy and drafting project plan,

deciding the project infrastructure. The acquisition of SAP system is begun. Usually there is kick-off meeting that brings together all members of executive and steering committees, project team and SAP consultants.

2.2.2.2 Business Blueprint

Here the work is concentrated on producing necessary documentation and completion of defining requirements. Various interviews and workshops are performed in different business units to ensure that all voices are heard. Consultants demonstrate the functionalities of chosen system. The gaps between business processes as they are in the company and as they are supposed to be in the system are identified, suitable solutions are analysed. All results of the work performed are included in Business Blueprint document which describes in details TO BE business processes. Business Blueprint is an important document that once approved serves as base for all next phases.

2.2.2.3 Realization

This phase is heavily based on technical issues. Configuration of the basic system takes place at this stage. So-called “power users” or “super users” get education on how to use the system in their respective fields of operation. Using iterative approach, the system is fine-tuned according to feedbacks of super users. Data migration plans and interfaces are set up as well as conversion programmes, end-user documentation, and scenarios for testing, reports, user profiles and security. The outcome of this stage is configured and tested system that satisfies the requirements of customer.

2.2.2.4 Final Preparation

The aim of this stage is to fine-tune all components of the SAP system and get company ready for final Go Live. Any exceptional situations need to be resolved. The super users are conducting end-user trainings under supervision of consultants. Interface programmes, conversions are checked and ready, final test are performed. Finally, the data is migrated from old system into the new one.

2.2.2.5 Go Live and Support

Lastly, the system is ready to be placed in production. At Go Live date the old system is shut down and new one is installed. Employees start to use it on every day bases. At this phase all issues related to day-to-day operations reported by end users need to be handled. This is a formal closure of implementation project.

2.3 Implementation dilemmas

There are some repeating discussions often occurring in academia. In particular, researchers raise the concern about packaged solution and it's fit to company needs. Another is the trade-off between customisation and Business processes reengineering (BPR). Both of them will be discussed in the following section.

2.3.1 The problem of packaged solution

On the one hand, the driver for implementation is to introduce the best practices. The system is then perceived as 'tried and trusted' and can give an assess to "broader knowledge and skills base" (Light and Papazafeiropoulou cited in Pollock & Williams, 2009). It is thus believed that best practices can be transferred from one enterprise to another. In long run some of them become fashionable buzz concepts and spread throughout industry and even across industries and become new standard way of working. For example, the idea of budgeting as a better "way to obtain in-depth insight into the whole organisation and a means of business administration"(Wolf, 1978 cited in Clark & Fincham, 2002 p.33) and some accounting principles was highly promoted by James O. McKinsey. Based on this idea, he founded the consulting agency back in 1926 that still holds the leading place in the market. Another example is lean manufacturing developed by Japanese companies, primarily Toyota car producer. Later the principles of lean and adaptable organisation, Just-In-Time, etc., was copied by market players and became new legacy system.

The recent trend in ERP solutions market is to buy the system from vendor rather than develop it in-house. Vendors are working on analysing and benchmarking of various

clients and then identifying “best practices”. This knowledge is then embedded into packaged solution to be sold in the market. After implementing such a system customer is supposed to learn the ways in which the most successful companies are operating. Thus consultants that help organisations in implementing process are usually concentrated on delivering so-called “vanilla systems” which implies as little customisations as possible. The differences between companies are however can be reflected in configuration options suggested by vendor.

This approach has some important limitations summarised by Newell et al. (2009). First, the users adopt the technologies to match their needs rather than adopt themselves to technologies. People use technologies in all different ways and not necessarily in the way the software architect planned the application. Thus the “best practice” embedded in packaged solution do not automatically embed by the end users. Second, the standard solution often draws criticism for applying conventional routines to all not taking into the consideration the specific company context and culture. However, the notion of “best practices” is considered to be “socio-political process of negotiation rather than objective reality” (Wagner et al., 2006 cited in Newell et al., 2009). This may imply different perception of best practices of various actors of the implementation process. Consultants are often focused on introducing standard procedures across company. They meet resistance of users that do not share the same understanding. One of the problematic areas in each implementation is the trade-off between software customisation and business change which is going to be described further. Third, using one approach may limit flexibility that is important for business. Newell et al. (2009) suggest differentiating between standard procedures and the ones that add value. For these standard procedures packaged solution may fit well. Still, value adding practices are difficult to identify especially in the conditions when consultants push to use vanilla solution. At the same time customers are afraid to lose their competitive advantage comparing to the rivals.

2.3.2 Customisation vs. Business process reengineering

In order to discuss this issue in more details, first the key definitions will be given:

Configuration of ERP system refers to "adjusting the package according to built-in parameters"(Pollock & Williams, 2009, p. 42). The parameters are modified to the specific requirements of the company without changing the source code.

Customisation is development of user-driven functionality that cannot be achieved by configuration (Kale, 2000). It includes rewriting the code.

Business process reengineering is "the rethinking and change of business processes to achieve dramatic improvements in the measures of performance such as cost, quality, service and speed" (Kale, 2000, p. 132)

There is a trade-off to be made between customising standardised solution to suit best the company's way of doing business and adopting the packaged solution through changing everyday practices inside the enterprise.

As every business organisation is unique and the information system serves to the needs of it, standard packaged solutions need broad customization. Pollock and Williams (2009) suggest that numerous failures of ERP implementation were caused by 'poor fit' between standard system and practices of client. Therefore, such misfit forces organisational change that is a difficult endeavour in itself.

Customising package has also certain downsides (Pollock and Williams, 2009):

1. It may lead to a situation when the system is no longer a package. Such benefits of package as cheaper price and further support are then lost.
2. It may limit the ability to use new versions of package.
3. Creates maintenance and technical problem because of the higher risk of introducing bugs in the software.

The position of consultants as suggests Kale (2000) in the practical guide of implementing SAP is the following: it is advised implementing vanilla SAP functionality. Afterwards when system becomes stable, the additional customised functionalities could be developed and introduced.

Such dilemma is also known as global–local dilemma. Successful implementation requires a good balance between general knowledge in technology area and local knowledge in the area of practice. In this sense implementation is a process of applying specific local requirements to general knowledge adapting and adjusting to each other with further embedding into software package (Fleck, 1993, 1994 cited in Pozzebon & Pinsonneault, 2012).

Global knowledge usually relates to explicit and codified knowledge, for example in software, methodologies and publications. Such knowledge is often possessed by consultants together with tacit knowledge related to skills and know-how (Yanow, 2004 cited in Pozzebon & Pinsonneault, 2012). Correspondingly, local knowledge relates to context-specific knowledge embedded in the actions and minds of employees (Contu and Willmott, 2003 cited in Pozzebon & Pinsonneault, 2012). Although consultants can be aware of local knowledge as well as client may be conscious of global knowledge, their primary focus and area of expertise is likely to be different.

2.4 Focus: consultants

Most of reviewed literature recognises various actors in implementation and consultant are identified as knowledge brokers (Hislop, 2002; Newell et al., 2009). The functions of consultants (Nippa & Petzold, 2001):

1. Providers of knowledge across boundaries (knowledge about competitors, other industries, markets and technologies).
2. Source of flexibility that is able to perform non-routine projects and hold resource pool.
3. Task-focused agents within the limits of contract.
4. Instrument in power struggles. Consultants are mean to enforce desirable change to the business by providing endorsed and sometimes undeniable reference. They represent interest of certain interest group in the company and serve as an instrument of influence in power games as well as of legitimization of disputed decisions. Consultants are entrusted with most risky and difficult

tasks. If they fail assignment, the management may put all the blame for it on consultants. In case of success, managers can take credit on themselves.

5. Bridge academia and practice. Since they work with companies in various industries, they can synthesise the challenges that business is facing and channel them to research institutions.

At the same time there are a number of risks associated with consultants' work. Werr & Linarsson, (2001) consider consultants as brokers that transmit knowledge. Knowledge that constitutes competitive advantage is thus in danger to be revealed to the rival company. The second risk is connected to the misfit of application of external knowledge to the company's specific context.

The consultants business of selling packaged solutions is business at first place and it is considered successful (Pollock & Williams, 2009). The reported revenues of three biggest players are given in Table 2.4 (Pang, 2012 cited in '2013 ERP Market Share Update', n.d.).

Company	Total ERP software revenue in 2012	Market share
SAP	6.125 billion US dollars	24.6%
Oracle	3.12 billion US dollars	12.8%,
Sage	1.5 billion US dollars	6.3%.

Table 2.4. Reported revenues for ERP systems providors (Pang, 2012 cited in '2013 ERP Market Share Update', n.d.)

There doesn't seem to be a lot of research focusing on the role of consultant during ERP implementation and the interaction process with the client. The vast majority of scholar publications talk about critical success factors of implementation. These articles address this process from client point of view and formulate advices how the management should run such project and in particular manage numerous consultants.

Vilpola (2009) suggests a multidisciplinary method to define requirements to future ERP system. The method is called Customer-Centred ERP Implementation (C-CEI) and based on the idea that end users should be involved in product development on early stages. It is noteworthy that this method is vendor independent and should be performed before choosing the system. However, there are the studies of more general approach to consultant work as such. Further closer look at them will be taken.

Kipping in Clark & Fincham (2002) studies the evolution of management consultants in the business world. According to author, the emergence of consultants is connected to second industrial revolution. The growing demand of improving efficiency in operations (primarily on the shop floor) led to emerging of the first wave of consultant, so-called "scientific management". As organisations grew and market was getting more and more competitive, the second wave of consulting service started. The organisations became more decentralised and the advisory services were focused on organisational structures and strategy. The top management was guided to define one's competitive advantage and long-term perspective on business. Finally, the ERP consultants belong to the latest third wave called network building consultancies. They are known as implementation specialists with consultants of IT and in-house training background. So the ERP consultants are distinctive type of consultants that are different in their background and source of reputation. Therefore, they need to be studied carefully as separated type.

The importance of consultants is recognised and the interaction with them significantly affect the result of an ERP project (Goles and Chin, 2005 cited in Basu & Lederer, 2011). As it was mentioned before, consultants act as knowledge agents.

They come into the company with the experience of all previous implementation and extensive expertise in the chosen solution and its available functionality. Hislop (2002) notes that they have key role in diffusion and abortion of the newest organisational practices. Using of such "best practices" can be beneficial for company but also consultants may manipulate the client to change business procedures without clear benefits of it. The result of consultant intervention is the change that otherwise would not have happened. Consequently, consultant involvement is often accompanied by the transfer of influence. The control shifts from the client to external

experts (Clark & Fincham, 2002). The interaction between client and consultant has dynamic nature. The ERP implementation can last any amount of time between couple of month to couple of years. How much power and autonomy is transferred affects the behaviour of consultant. For example, Hislop (2002) suggests that consultants possessing high level of power and autonomy are more likely to implement system with minimum customisations but the one that requires substantial amount of changes in the organisational context. And vice versa: if the client stays in control of the project, the changes are more likely to occur in the technological context rather than organisational.

The idea of Hislop (2002) led the author of this work to search for more complex understanding of client–consultant relationship. Another contribution to this field was suggested by Pozzebon & Pinsonneault (2012). In their work three types of projects according to three types of client–consultant relationship (see Table 2.5)

Type	Roles (knowledge-related dimension)	Control (power-related dimension)
Dependency type	Consultants are the experts and clients are rather information providers about local peculiarities	Project is directed by consultants
Cooperation type	Clients and consultants are experts complementing each other	Project is led by consultants and clients
Autonomy type	Clients take an active role of experts. Consultants are coaches, an extra ‘pair of hands’.	Project was led by clients. Consultants were engaged according to specific contracts

Table 2.5 Classic types of client–consultant relationship

Depending on the type of relationship, consultants may or may not have leading role in the project. Nevertheless, the nature of implementation project is dynamic and the roles can change on different stages of project life cycle (Pozzebon & Pinsonneault, 2012).

Hung, Ho, Jou, & Kung (2012) studied the impact of the knowledge transfer climate on knowledge transfer process in ERP implementation projects and what factors motivated project team to create positive climate. The identified factors effecting knowledge transfer were classified in three groups: associated with the implementing company, with the consultants and connected to the influence of the knowledge transfer climate.

The research supported two hypotheses associated with consultants:

> The consultants' industry experience has a positive impact on the knowledge transfer climate.
>
> The consultants' project management capabilities have a positive impact on the establishment of the knowledge transfer climate. (Hung, Ho, Jou, & Kung, 2012)

Thus, contribution of consultants is seen as important but the research about them does not go in more details.

2.4.1 The question of power and politics in the interaction with client

Previously the implementation models were presented. One of the features of those models was that implementation is seen as logical and rational process. On the contrary, Nippa & Petzold (2001) note that one of the functions of consultant is to represent certain interest group in the power games. However, the consultants themselves can use politics to lobby decisions that are advantageous for them.

Pozzebon & Pinsonneault (2012, p. 35) see the connection between power and knowledge and suggest that they are interconnected in the processes of IT negotiation. Two views on this issue are presented:

1. Possession view in accordance to which knowledge and power of a player depend on the resources are owned by her.
2. Practice view where knowledge and power are "relational in nature and exercised in action"

It is concluded in their research that these views complement each other and power and knowledge are interconnected in nature.

There are three types of power that can be used in order for influence effective change (Hardy, 1996 cited in Newell, 2009):

- Resource power or the power to engender anticipated behaviours by distributing key resources on which others are dependable.
- Process power or the power originating from decision-making processes, procedures and routines within organization that allow or avert certain groups from taking part in decision-making.
- Meaning power or the power of cultural norms and expectations, in other words the power coming from the semantic and symbolic aspects of organizational life. It can legitimize or de-legitimize particular undertakings, for example particular organisational change.

Applying this classification to the ERP implementation process, the key players holding power in the organisation can be identified:

- Resource power is centred in the steering committee with project managers from business and consultancy involved.
- Process power is distributed around wider community, including steering committee, project managers, project team members that have knowledge about business processes. Line managers have certain power to allow or hinder people from project team thus influencing the decision making in the project.

- Meaning power relates to employees in general, their acceptance or resistance of the new system, expectations from it as well as experience with it. Communicating change through variety of networks is another useful way to increase user acceptance as they are important actors in communicating knowledge as well as in promoting new ways over the others (Pittaway et al., 2004 in Newell).

Managing effective change requires the consultants to work with all three forms of power and to plan the activities related to it.

Most of the later discussions will be based around the term "attitudes" of consultants. This term should be understood as in Oxford Dictionary:

> "a settled way of thinking or feeling about something" (Oxford Dictionaries, Accessed October 3, 2013)

2.5 Conclusion

With wide spread of ERP systems and its constant upgrades and improvements, the pursuit of successful implementation is still occupies the minds of academics and practitioners. Various actors are involved in the implementation and the efficiency of their interaction influences the outcome greatly. Much of ERP research discusses variety of actors and does not focus of consultants specifically. The literature review revealed limited understanding of the consultant's opinion about implementation project which was chosen to be the main topic of this research.

3 Research Method

In this section the research question is posed, research method discussed together with research approach and ethical considerations. It is also described how the data was gathered and what are the limitations to the study.

3.1 Research question

The research question has been formulating while reviewing the literature. It was revealed that most of literature addresses the challenges and success factors of implementation with emphasis on the company receiving the ERP system. In these settings the client has a leading role and the advices concentrate on how to utilise consultants' expertise best. However, the implementation is rather an interactive process between various players. Processed literature exposed lack of understanding of consultants' standpoint, their perception and understanding of implementation process. To comprehend it better, it was decided to target consultants only. The research questions were formulated as following:

How do consultants see the process of ERP implementation? How do they see the interaction with client?

3.2 Research method

The research methods can broader be divided on qualitative or quantitative ones. Key differences between two are given in Table 3.1 (adopted from Hennink, Hutter, & Bailey, 2011).

Factor	Qualitative research	Quantitative research
Objective	To get in depth understanding of causal	Make conclusions to a wider population through quantifying data

	reasons, drives and believes	and extrapolation
Purpose	To comprehend why and how. To study the process, influences and context	To quantify and measure a problem. How much? How often? To discover relationships in data
Data	Textual data	Numerical data
Study population	Small number of interviewees	Large representative sample
Data collection method	In-depth interviews, observations	Surveys, opinion polls
Analysis	Interpretive	Statistical
Outcome	To develop and improve understanding, to recognise behaviours and its causes.	To recognise patterns in data, to find prevalence and averages.

Table 3.1 Comparison of qualitative and quantitative research (adopted from (Hennink et al., 2011)

To capture the consultants' attitudes and approaches towards implementation project, qualitative method was chosen as more appropriate.

The main ways to combine qualitative research and related literature are (Hennink, Hutter, Bailey, 2011):

- Through deductive conceptual cycle
- Through inductive conceptual cycle

In deductive conceptual cycle the research starts with analysing existing knowledge on the topic and identifying hypothesis to be tested empirically. As a result of research, the hypothesis is verified or falsified. According to inductive conceptual framework, the research starts with observations and patterns recognition. The hypotheses are then developed in attempt to explain specific behaviour. As a result, new theories may emerge.

Using grounded theory is suggested as an effective approach to data analysis. Therefore, grounded theory approach was applied in this research.

3.2.1 Grounded theory

Grounded theory is an inductive approach to interpreting qualitative data. The main steps of grounded theory are:

1. Prepare verbal transcripts. It was decided to audio record all the interviews. Hence, the initial step was to make a written record of the interviews.
2. Make data anonymous. In accordance with Northumbria University Research Ethics and Governance Handbook, researchers are to follow "the highest standards of academic practice when processing information about living individuals (personal data) as part of their research" (Northumbria University,

2011, p. 20). Thus, it was chosen to assign codes to the research participant and to refer to them R01…R09.

3. Develop codes. Code relates to a view, attitude, issue etc. that is apparent from data. Some of these codes can be suggested by the interviewee themselves (inductive codes) whereas others can be initiated by the interviewer based on literature review (deductive codes).
4. Code data refers to indexing all the transcribed interviews according to developed codes. In this way all data related to a certain code can be analysed separately. Coding helps analysing specific attitude across all the data and comparing approaches of particular sub-groups. The last point was particularly relevant for current research since it gave an opportunity to compare attitudes of three main types of consultants taking part in ERP implementation.
5. Describing is used to pinpoint and depict issues in the data.
6. Comparing refers to further deeper analysis of data with possible identification of patterns and associations in the data.
7. Categorizing means working with meaning of codes and clustering them into profound categories.
8. Conceptualising implies taking so-called "helicopter view" on these categories and evaluating the relationships between them. As a result, conceptual understanding of raised issues should be developed.
9. Develop theory is the last step in the analysis. During it all the components should be brought together in order to be synthesised into inductive theory about research issues.

However, the present research was not purely based on grounded theory. As it is claimed by (Hennink, Hutter, Bailey 2011), analysis of qualitative data "involves interplay between inductive and deductive reasoning" (p.206). To incorporate such a notion, systematic combining suggested by Dubois & Gadde (2002) was also used.

3.2.2 Systematic combining

Glaser (1978, cited in Dubois & Gadde, 2002) claims that empirical data should not be enforced to fit already existing categories but rather the categories should be derived from data.

It is stated by Dubois & Gadde (2002) that the researcher is constantly moving back and force during the research: from one research activity to another, from theory to empirical observations. Such moving enables to develop his understanding of both theory and practice. The initial analysis is based on formulated 'preconceptions' that are then advanced in accordance to empirical data, its analysis and interpretations. The interconnection between theory and empirical observation is so tight that they cannot be understood without each other. The analytical framework guides the pursuit of empirical data. Empirical observation in their turn can reveal unexpected but nevertheless related and important issues that might be examined further. Modifying the theoretical framework and changing the theoretical model may be thus needed. This whole process is referred to as systematic combining (Dubois & Gadde, 2002).

> "Systematic combining can be described as a nonlinear, path-dependent process of combining efforts with the ultimate objective of matching theory and reality." (Dubois & Gadde, 2002, p. 556)

3.3 Research process

Interviews with various consultants have been chosen as a data source for the research. The interviews were semi-structured. Major topics for discussion were outlined based on the literature review. However if particular topic was not covered by initial questions but interviewee considered it important from his perspective, then the discussion could evolve in another direction. In this sense the theoretical background outlined in first part of the work influence the formulation of main topic the researcher would like to discuss. Further analysis of interviews was based on grounded theory. The interviews were transcribed, coded qualitatively which resulted in eleven categories identified.

3.4 Ethical considerations

During the interviews the experience of the interviewees in management of projects was discussed. In such settings it is impossible to avoid discussing potentially sensitive topics as the experience of failed projects and the probable reasons of it. To

avoid any issues related to revealing such information, the participants stayed anonymous within the research. Each of them was informed about research goals beforehand and was asked to sign the research participant consent form. The questions for interviews were designed in a way that does not compromise interviewees' dignity, human rights, safety and well-being. Their personal data was saved securely using Secure Sockets Layer and AES-256 bit encryption. No commercially sensitive information was revealed during the interviews.

3.5 Data collection

Nine interviews were performed within research. The participants were found through profiles in the business-oriented social networking site LinkedIn. Among participants there were eight people working in Sweden (Gothenburg, Stockholm and Linköping) and one person working in Finland. Most of the interviews were performed face-to-face with one exception when interview was made through video call in Skype. All respondents were male. All research participants have experience in working as ERP consultant with some project management responsibilities. However, some of their competence is combined with the ones in adjacent field. Namely, R04, R08 and R09 are currently representing management consultants and now representing a client in the implementation projects, R06 is business intelligence consultant. Interview duration varied from 1.5 hour to 2 hours. All interviews were audio recorded.

The respondents also vary in the profile of projects they are mainly involved in. The following classification is used:

1. Small (S)
2. Medium (M)
3. Large (L)

The data about respondents is coded and their titles are presented in Table 3.2

Person	Title	Profile of projects

R01	Project manager	S, M
R02	Consulting manager	M
R03	Project manager	S, M
R04	Senior Consultant	M, L
R05	Managing Consultant	L
R06	Business Unit Manager, business intelligence	S, M, L
R07	Senior Software Consultant	S, M
R08	Senior Manager	L
R09	Senior Consultant	L

Table 3.2: Profile of respondents

3.6 Scope and Limitations

This research focuses on the implementation process from consultancies point of view only. However in reality there are at least two sides: client and consultant. Involvement of additional consultants (management, business intelligence) may add complexity as they have their own view on the implementation. Additionally, the

interaction among various types of consultants may mean different dynamics for project.

The chosen research method also has certain limitations. Namely, during iterative process the researches needs to stop as there are time limitation to produce outcome. Though, in the real world it continues and progresses in a way that is not captured anymore.

According to Yin (1994) cited in Dubois, “multiple sources allow the investigator to address a broader range of historical, attitudinal, and behavioural issues.” Combining it with the fact that people act and talk about how they act differently, additional activities could be performed, for example observations in real time would be good complementary activity.

The participation in the research was exclusively voluntary so the research was limited by participants that were willing to participate. For instance, there is a gender limitation as all respondents were male, no female project managers agreed to participate in research. Also, there is a geographical limitation as the respondents represented North Europe only, Sweden predominantly.

4 Results and Data Analysis

After transcribing and coding qualitatively the interviews, the following categories were identified:

1. Pre-study and follow-up of the project.
2. How consultants view customization and how they decide the degree of it.
3. Increased complexity of international projects.
4. Data migration.
5. Scope control.
6. Testing.
7. How consultants see a perfect client.
8. Power distribution in the company through possessing resources, processes and meanings with such issues as resources allocation, change management and education being discussed.
9. What technics consultancies use to influence clients?
10. How do they see the implementation process: the value of methodology and political influences?
11. Finally, how consultants see their mission is projects.

Each of them will be described in more details. It is important to note that these categories emerged based on the analysis of the interviews. The order does not represent any structure and does not reflect the importance of one or the other.

4.1 Pre-study and follow-up

There were different types of interviewees participating in the research:

1. Management consultants
2. Business intelligence consultants
3. System integrators

Each of these players starts being a part of project in different stages. Consequently, they have different view on when does implementation project starts. Management

consultancies come in early in the project. They are often responsible for requirements definition for the project as well as assisting in choosing the system and implementers that fit these requirements best. Business intelligence (BI) system may be or may not be a part of ERP implementation. However, the prime focus of this work was on system integrators that are responsible for installing the system. For smaller implementations client choose the implementer on their own. How do system integrators then study the company and decide the requirements for the system? Consultants see pre-study as an additional activity that will or will not be performed. Unlike management consultants, they tend to deepen into the process mapping and finding gaps between standard system and what client currently working with. Nevertheless, decent pre-study may reveal wrong expectation posed for the system. Management consultant and BI consultant share the opinion that top management is usually more interested in BI systems rather than ERP.

> "What they expect on the management level is that they get good solid foundation for reporting and that's where they normally get disappointed. ERP system is very good at handling transactions but it's lousy at handling reports. Than the management at the customer believes that they will get fancy looking reports and analysis, dashboards, they can see speedometers about their KPIs. But they never get them from ERP system. So they tend to be disappointed and there are negative discussions after ERP."[R06]

Hence the client can have wrong expectations from ERP system and system integrators as its providers. Also the follow up of project is not generally quoted as important activity. Not much told about such an activity at all. Although consultancies are willing to develop long-term relationships with client, they do not seem to measure customer satisfaction or to match the delivered system against the initial requirements.

4.2 Business change vs. customization

For most of consultants the position about customization is clear and obvious: they acknowledge they try to avoid any customizations. Their first argument is that it is costly. Additionally, when it comes to upgrading the legacy system, all the customizations should be usually done from the very beginning which also increases total cost of ownership. Secondly, there is a risk to introduce bugs into the software. Finally, interviewees also appeal to the extensive knowledge developed by years of implementing ERP systems. Some mention making a business case and facing a client with a price of making customisations comparing to the business change.

> "You have to do business case of it. What are the consequences of doing business change, how is it going to affect the work?" [R04]

> "If they are faced with a figure how much it is going to cost to fulfil their requirement 100% then they usually back away or we usually do some kind of compromise."[R05]

Some consultants admit that there is a whole process of negotiations and trade-offs between client and consultants and in the end they meet on the half way. On the one hand, making business change can seem too challenging for the client:

> "Users don't like change. They like when it looks exactly the same. They feel safe. Changes are a little bit worrying. It could be a big step for some users to be a part of upgrade or system implementation."[R07]

On the other, this process is not seen as a conflict one since consultants see the client on their side in this question:

> "Both parties have interest to have solution which is more or less standard solution." [R04]

> "The trend in the last years is that the business has to forge into the standard system. So the big mantra now is "standard, no customisations". [R06]

There is one respondent R08 suggesting starting discussion from business and IT long term objectives not the project objectives. After that discussion about business change or software change can turn into rational conversation:

> "Do we have core and non-core processes defined? Yes/No. How do we set guiding principles of how to address that? Like for non-core I doubt that you should use anything else than standard. It would normally be better than what you are having today."

This view is however represented by management consultancy that holds primary competence in what is suggested to be the best way of implementing.

The standpoint may be different from the type of company consultant are working in. If the competences of system development and system implementation are united in the one company then for such companies it is easier to make customizations:

> "Customisations are also a business for company X (not primary). It is company X that is developing, implementing and supporting the system. We know the system and we have all the tools to customise the system and support our customisations in the system."[R02]

4.3 International projects

The difficulty to come to a common definition of "best practices" across enterprise becomes more complex in the case of international implementation. The intercultural differences as well as different approaches to the same task become another challenge. Most of the respondents acknowledge increasing complexity of international projects but also they feel more enthusiastic about being a part of more challenging assignments. There is a variety of attitudes towards international projects. Probably, the most frequently cited differences refer to country-specific legislation and financial reporting requirements as well as language. R02 for example has a very rational approach to it:

> "We need to bring a local finance consultant but the rest is up to the business. You are still receiving orders and shipping orders and producing in the same way in different countries."

Others mention differences in hierarchies and the ways in which decision are made. These issues impact the timescale of project and are also related to the quality of delivery. The impact can be either positive or negative and can be well described by two stories told by interviewees. R08 describe global implementation in one of the leading electronics companies originated from South Korea where the team managed to roll-out with one system in less than 3 years which is a short amount of time for a project of such scale. One of the main success factors in his opinion was Korean hierarchical culture where employees "don't really question anything" and ready to adapt to the technologies as they are suggested by top management. R09 describes his experience of the hierarchies in another project. During the project meetings it was only the boss who was speaking. However smoothly it went on the planning stage, the problems started rising later

> "When we then came to user acceptance test, when the actual representatives were doing the processes, then they told us "we have to do this and that". In the design phase they didn't dare to speak out what was their perspective, of the actual people that were doing the process. That's the most important that they get to speak. That was huge challenge."

The implementations in companies with various offices all over the world are run in usually similar scenario. With great involvement of consultants the master template is created. Then implementation gradually rolls out on different countries based on master template with minor changes connected to legislation. After every implementation client gets more and more experience in this process and the participation from the consultants decreasing. The roll outs seem to have some kind of forced nature when the vision of head office is deployed to the regional ones. So when developing master template how consultancies embed the knowledge from regional offices? How do they make sure the local needs are addressed? Two of consultants R02 and R08 raise this concern and stress that it should be taken care of. For R05 this issue was of much higher importance as he is mostly working in change

management team. He told a story of how they addressed this issue in real life scenario. It was a company with 17 reasonably independent plants spread across Europe. These were bought over a period of time and used own systems. The main purpose of the project was then implementing companywide system to assist closer cooperation between the plants. The project started with a two day workshop that brought together high representatives from all company's locations. There were various workshops they needed to attend where consultants introduced the system and participants predicted which problems might arise with standard system configuration. Since the representatives of plants were in management positions (plant managers, production managers), they help necessary knowledge to be able to talk about specific needs for plant and where the new ERP system cannot fulfil their specific requirements. Another reason was of motivational kind:

> "There was a degree of hostage taking during that workshop because intention was also to get everyone committed. Now we are actually starting a journey and you are a part of it. […] They can't come back during last phase and say "I wasn't aware of that" because they were." [R05]

As a result, there was a long list of issues that were identified during workshop. The list was divided between members in change management team. Their task was to be present in every workshop during Business blueprint phase and to make sure all the above mentioned issues were addressed and handled:

> "We were actively pushing them to make sure that everything that was identified during workshop was taken care of. So we don't forget anything or decide to skip because it's uncomfortable."

4.4 Scope control

Scope control is also often quoted during interviews. However the context can differ. In larger implementations consultants advice to reduce the scope as much as possible and to have clear procedures for change control. It is then easier to react on the changes in the business market if you decreased the scope and divided project into sub-deliveries [R04][R05][R08]. There is initial scope defined in the sales and pre-

study phases. During workshops it is easy for client to become excited of the possible improvements and expand the scope significantly. It can happen during realisation phase as well because the client sees how the system works and understands it much better. The requested changes should then go to the change control procedure during which the client should specify it in more detail. The consultants then define the impact of changes "in terms of extra cost, extra time, and extra effort" [R05]. After putting a price tag, project manager or steering committee makes the decision whether to proceed with change.

Others [R06] [R07] see a real challenge to manage project with fixed price. The scope of delivery is certainly going to change most probably increase. The way to deal with it is suggested by [R06]:

> "So we have ordinary delivery on fixed price, we take change request on the side and we build that on time and material."

4.5 Testing

Availability of resources is especially important during testing. There are usually three levels of testing described: unit, integration, and acceptance (Kale, 2000; Pollock & Williams, 2009).

a) Unit test refers to checking if individual units of code are well functioning.
b) Integration test refers to verifying if units are working together in expected way.
c) Acceptance refers to the testing performed by various end users of system. To have end user satisfied and willing to use the system is cited as important factor.

> "It's never better than user's opinion on it." [R05]

The quality of system alone does not imply the client will be satisfied. R09 gives a definition of result as multiplication of solution quality and acceptance.

Result = Solution * Acceptance.

However it seems to be quite challenging to measure the level of acceptance. The understanding of whether users are confident with the system is rather intuitive and therefore limited by the consultant's perception of the project progress and effectiveness of communication with client organisation. [R03] says testing is the first activity that the customer owns so the consultants recede into the background and only assist client. Since the client is not experienced in testing and still need to run business-as-usual operations, the testing consequently does not get required attention. There is a risk the system is not tested at all. Some of respondents note that client often expect the system to work normally without putting their own efforts into it themselves. So employees on the client side do a slight test and tell to the implementer that the system works fine. The issues that are unrevealed during testing are then postponed for later. Another scenario is that the testing does not finish at decided date but deferred again and again. As a result, the whole project might be delayed as well. This activity is also left out due to its high cost as R08 reveals.

Data migration from the legacy system to the new one is considered to be challenging but its importance is often underestimated task [R02] [R03] [R05].

4.6 Perception of good client

For consultancies having "right client" is the crucial success factor. Describing them, most of consultants mention personal competence/expertise within their field and authority to make decisions on behalf of the company. They should hold knowledge about business processes across the company. Sometimes "the most senior people" are preferred. Otherwise there is a need to have a mechanism "to bring issues from the project to the top management so that management can make decisions". It is client who owns the resources that the consultant wants to be provided with. So it his ultimate decision whether to supply additional funding, hire extra personnel to free the project team members for their day-to-day work etc.

> "I think over 50% causes of failure lie at the customer that they didn't take it serious enough, they didn't put aside enough funding for the project, they didn't test enough, they didn't engage the right people." [R03]

> "The success factor is very much on management both focus in the comp how important the project is and to get resources available."[R04]

> "[We need] to set this straight when discussing the contract with us in the sales phase. In our proposal we usually put requirement: client involvement on the certain level, governance structure, access to all the right people from the client. Otherwise we're not interested in running the pj." [R05]

> "Involving business side on each stage is the most crucial success factor."[R09]

There are however certain ways for the consultants to influence the client that would be described later.

Other point worth attention is how management use own attention in relation to project. This factor is also seen as important success factor. R05 tells a story describing the level of commitment consultants want to get from the client. For one of the projects the executive sponsor was a division manager for Europe right under CEO in the organizational structure. That is what he did to deserve being told about:

> "The Blueprint was ready by Christmas time. He actually spent his Christmas reading through the Blueprint and it was about 2000 pages, he read everything. That the kind of commitment we want from executive sponsor. It shows his commitment, how serious he was about this. That's perfect."

Interviewee from management consultancy has different opinion about good client. It is long-term perspective on the business and the state of the market that are of crucial importance:

> "This is one issue we see that we are addressing by focusing not only on project objectives but also on business and IT long term objectives and how to incorporate that in long term road map."[R08]

The question of treatment the consultant is also discussed during interviews. There are always issues with atmosphere in the project group that varies a lot from project to project and also has dynamic nature during project development.

> "They [client] have to get the confidence that you as a supplier of ERP will solve the problem." [R01]

> "You can do all the papers right but you if have a customer that say "I'm going to treat you like … it's not going to be a good project."[R03]

The question of trust is significant during deciding the level of customization. Consultants feel pressure when discussing future architecture of the system and suggest certain business change initiatives:

> "As we are suspected to speak in our own terms, we are not really trusted. When we say "Let's focus on your own processes not on the system" – they don't believe us. Usually they say "We know what we are doing". [R07]

4.7 Interaction process with client

As it was discussed in the literature review, there are three kinds of power to be addressed by consultants: over resources, processes and meaning. In the next part further results will be presented by applying this classification to the outcomes of the interview.

4.7.1 Resources

Putting enough resources is largely quoted as important issue. Usually it means putting enough time aside from day-to-day business in the working schedules, making "right" people available for project that both competent and empowered for decision making. The consultants wish the client bring additional employees to the company to substitute temporary people in the project team [R03] [R04].

4.7.2 Processes

According to R03, the consultant project manager gets the information of the current state of project through the customer's project manager. More importantly, he gets it also from lower level consultants that get a lot of questions from the users that uncover their incompetence in the system. Project manager then becomes alerted and should take the actions to change situation.

There is variety of instruments used by consultancies in order to influence their clients.

1. The most quoted way is reporting to the customer and/or bringing this topic in the steering committee meeting. The consultants usually understand the advising nature of their suggestions.

   "Ultimately it is customer's money and their decision if they want to take it serious enough, is they have enough funding or bringing additional people. It's always easy for us to say: "I think you should spend 1 million on bringing in additional resources for six month so that other people can spend two days per week working with system Y". The customer then say: "I don't think so. I think it's going to work out. We can work few additional weekends instead." [R03]

   "It's not much that we can do other than report and communicate that we have problems and we have issues and it will cost something in the future. When the inevitable happens we have the budget over, we are running over budget or we are running late in the project, we can at least say that we have informed about this already earlier in the project." [R02]

2. Define explicit requirements in the contract, namely "access to the right people at the client that we need their dedication to participate in the project" [R05].
3. Building trust and good relationship with management. Interestingly enough R01 described the way to win the trust by "speaking out, saying no and give reasons and options of action".

4. Refusing following customer's directions/demands. Actually it was only one respondent who admitted using it.

   "You can be just a bull and run them over but you will not have a happy client. Sometimes you have to run them over but you should not do it regularly. If you do it, you have to give them a good reason why you do it. "We want the system to do it this way. – No, I refuse, I don't do such a modification because…" [R01]

5. Meeting the client early in the project:

   "If I arrive earlier before the project starts to meet the customer, maybe even to be a part of sales cycle." [R03]

6. Motivating to participate actively in order to get maximum value:

   "Trying to get them to realize what value can be achieved. […] Assuring that the correct solution is implemented." [R08]

7. Set up a reference visit. [R06]
8. Pre-study as a method of influence. [R05]

4.7.3 Meaning

The power of meaning can approve or disapprove particular endeavours in larger organizational context. Consultants address it through change management activities and education.

4.7.3.1 Change management

Although the need for change management is recognized by respondents, it seems to stay a bit outside of the main focus. One of the ways to prepare business for new ERP system is to introduce responsible for business changes. In some huge implementations it can be whole team responsible for change management as it was described by R05:

> "Usually [there is] entire sub project for change management: to make sure that the proper changes are made out in the business like organisational changes, work procedures and routines, they need to be aware of what is going to change when you're implementing such a complex system."

Such a sub project team is divided into three areas:

1) Proper change management namely new procedures, routines. New positions are introduced so people have to be assigned for them.
2) Training for users (described in details later).
3) Communication that usually involves communication responsible taking care of information that should be directed to the company. The issue of channels of communication is brought up. Involving not only project team but also line mangers to channel the information to employees is important. After the project employees will most probably have new tasks, new responsibilities, be working in different way, use the new system. Coming to the trainings, they have to be already aware of these issues, know exactly why they participate in trainings and how does it affect their daily work. The client needs to understand that training is a tool to ascertain that people in the company can carry out their tasks afterwards. The main source of information about the project should be management not the trainers:

> "If your own manager tells you something is going to happen, you are more likely to believe it than consultant from the company you've never heard of comes to you and tells something is going to happen. It doesn't have that impact."

Such approach seems to be rather an exception and it was quoted by one respondent only. It also proves to be costly. Management consultant R08 says that change management activities are usually neglected due to cost. When the budget goes up, these activities are first in the queue to be cut and go back to planned spending.

> "Then you just postpone your issues and then you let the business deal with it. Then you start the conflict between business and IT." [R08]

4.7.3.2 Education

Another way to transform the meaning of the system, its expected benefits and to legitimize new ways of working is through education. It is compulsory activity performed by all the system integrators. R01 suggests user acceptance directly depends on it:

> "Very commonly you see when the systems are not appreciated or the people try to avoid it is because they had too little education."

Commonly "train the trainers" concept is used where some employees become experts in the system and they are responsible to train all the rest of end users. R02 suggests the main reason for this approach is value for money. It is just not worth for consultant to train everyone in the organization. Another reason is that responsibility for education is now shared with the client. Often the last one has bigger part of it. According to R03, usually there is not enough education since the whole process is considered boring and also employees have their ordinary responsibilities that they need to do every day. In such settings the consultants can feel safer in the sense that they cannot be accused in providing poor education. As R07 puts it:

> "We don't really have control of what they are teaching. I think it's good that organization take responsibility to understand and train on their own because then it's not that easy to blame a company for just installing the system."

It is only one interviewee R01 who criticize "train the trainers" concept:

> "Super user is good but it's a little bit like a blind trying to lead a blind."

R05 stands out in relation to education as he gives more operational view. He tells the story about a global roll-out project in which he was responsible for education. Together with change management team they made first visits to every plant in order to explain what is going to happen and how it is going to affect the plant. The consultants influenced the plant management to reflect the changes in the structure of the organization and to assign people for new positions. They also asked for plants to

define who needs education later. The local change management representative was assigned because

> "Then it's much easier for people to accept changes if it's coming from one of them, someone they already know then we are just traveling from other city and telling everyone what to do."

As for education itself, the training materials were produced by project team and their authors were also the trainers. There were a number of courses to attend depending on how closely the users are going to interact with the new system. For this a training system with set up scenarios and tasks that people needed to perform was designed. At the end there was a test and every participant received a certificate "to hang on the wall" as a symbolic artefact.

4.8 Attitude to project model, implementation as rational process

Most of the respondents agree that ERP implementation is rather business change project than information technology project. Some however underline that this perception is not often shared with the customer.

Generally respondents have positive attitude towards the methodology. It is described as framework for working in a structured way. It also incorporates experience from a large number of implementations in order not to step on the same rack twice. Additionally, following methodology can be a way for important stakeholders that are not active in a project to show that they have control of what is happening. However, there is no overexcitement in relation to it. R01 notes that no project model is perfect and they don't solve all the problems. What more important is open communication and flexible mind set of the client. R03 sees methodology as a way of communicating and gives a better understanding for the customer of the required resources, timeline. R07 says the projects don't usually go as the methodology suggests. The focus moves to different things for various reasons: lack of time to perform all the activities, increased complexity or the maturity of project managers.

> "The models that we try to follow are quite rational and good. The bad things about model are that they take a lot of time and effort and this is what we usually don't have."

He also says that following methodology does not automatically mean the project is going to be successful. It is not the check list of activities but the content of them which is important as well as the goal of the project. Interviewee gives an interesting analogy to prove his point:

> "If you follow all the laws would you be reach? Perhaps not. You could be. It means only that you are following law."

4.9 Politics

During the interviews the researcher questioned if the implementation process was a rational one or was it influenced by some sort of power games. However, the respondents did not suggest a proper answer for it. It may be because of not enough time to go that deep into the topic or the cultural differences that does not let to talk about such issues. This information can also quite sensitive and reveal using of some manipulative technics. However, three respondents gave their own definition of politics and described how they deal with it in projects. R01 refers to any internal discussions as such as they don't require much of his attention. His way of dealing with it:

> "Internal discussion – don't participate. In some discussions you need to participate, to be some kind of moderator."

R03 defines politics as the network of interpersonal relationship developing in the company. It includes personal controversies, different agendas and other things that are impossible to include in the methodology but that influence project. He also recognises the influence of such issues on the decision-making, for example who are going to be project team members, who are going to be a part of the steering group. The work procedures usually transform and some people may change their work responsibilities or even be left without a work so this subject is quite sensitive.

> "We cannot do that as supplier but try to understand and be aware of it. […] There is a lot of dust that gets up on the customers side when you do an implementation."

R07 adds another angle with his definition. In his perception politics takes place in the interaction of client and consultancy. Mainly it refers to the agreement of two parties to deliver certain result to certain date. As the project progresses, some changes are needed but they are not taken into account because they contradict the initial agreement. He gives an example from his working life when they had to finish the project in four month although the original estimation was six month. It was a global implementation that included roll-out in India. The planning of the project went backwards from the Go Live date of the last part of roll-out. Then it appeared to be already late to start the pilot in the normal fashion so they decreased the time scale of the initial project to four month.

> "It's more political, it's not just practical that you can change. It's not negotiable for changing those kinds of things."

4.10 Mission as project manager

This question refers to more philosophical level and most of respondents had to take some time to come up with an answer. Their answers represent truly multidimensional definition and in most of the cases they reflect the relationship with and attitude towards customer. The perception of main task from project manager includes the Iron triangular but is not limited by it. Some of the respondents question criteria of time and budget. They underline evolving nature of the implementation project with changing (mostly expanding) scope. There is a demand for delivery that characterised as following

> "System that really supports their type of operation" [R01]

> "If we actually deliver what the customer wants, that is a big success" [R07]

Interestingly enough that despite of statistics of the high percent of implementation projects failed, the interviewed consultants do not mirror it. Some of them claim they

were a part of “the project with problems” but not in failed ones. The reason for such misalignment can lie in different perception of successful implementation of various project stakeholders. In their stories the projects with went completely out of hand usually happened to their colleagues or were retold by them.

The quality of the implementation is more frequently cited as the ability to Go Live with the system without using emergency plan and “needed to go back to the new system within day or two.” (R02). Such a “silent” implementation is characterised as the one “without interrupting the daily business so that end customer would not know the client has changed the system” (R02).

Other thoughts include achieving effective teamwork of consultants and client representatives. R04 and R05 reflect upon team management and knowledge distribution in teams. R05 described the worst-case scenario when highly experienced consultant is teamed up with “totally inexperienced representative of the client that has no idea of what is going to happen. […] Consultant just leaves that guy behind him and they never catch up”. In this view knowledge seems to be mainly distributed one way: from consultants to the client.

Only one respondent R02 acknowledges 2 ways of his personal responsibility: one towards customer and equality important “responsibility towards my company, financial responsibility. […] Always try to serve the customer, meet the customer expectations but never go beyond what is financially acceptable”. Another consultant calls for agility in implementation process especially in the part related to “Customer collaboration over contract negotiation”. He sees the nature of financial agreement as a boundary to produce value for customer. “If you can release yourself financially… you will still have a budget, financial things that you need to be aware of, you can’t spend whatever you want. We don’t know in the beginning what we will know in the end.”

5 Discussion

In this part another loop of systematic combining will be made. The researcher will bridge literature review and empirical observations. The role of methodology will be evaluated together with the impact of culture on research results.

Generally, the categories emerged in results section match the ones in literature review. However, the angle was different and additional topics were discussed in order to reflect the differences in perception between client and consultant. For instance, how consultants see the good client and what do they think their mission in the implementation project as well as how the needs of regional offices are embed in master template. It was revealed that academic literature is not reflecting enough on the recent trends in the ERP market such as mobility, cloud computing and agility. There is a gap between academics and business word that needs to be closed. These trends have impact on methodology. Particularly, people working with mobile applications are usually using agile methodology and agile in itself becomes more attractive as solution to fast changing business environment. Another challenge supplements agility: how to write the contract and how to estimate budget.

5.1 What is the role of methodology?

There is a general feeling of respect to methodology and the will to follow it. It seems however that once you mastered methodology another factors become of greater importance. Deeper discussions are concentrated on sort of "soft" issues such as communication, negotiation etc. Methodology is perceived as supported mechanism. Consultants can skip some of points methodology suggests or add some other activities. There is a variety of experience-based activities that are not reflected in methodology but used in order to influence the client, to win the debates etc.

5.2 Cultural impact

One of important limitation to this research was that all the respondents represented Nordics: eight of them were working in Sweden and one in Finland. In this section it

will be analysed what kind of impact does it has on the overall results. How does Nordic context make implementation different?

Gesteland (2005) analyses cultural differences related to business behaviour. He introduces the "Great Divide" between business cultures: relationship-focus vs. deal-focus. The majority of the world market belongs to relationship-focus business culture which means businessmen avoid doing business with people they don't know. They use the networks of people that they know already and their recommendations and references about the others. Obtaining trust in partner is often essential on the way to signing contract. In contrast, deal-focus people are often open for making business with strangers. Nordics belong to deal oriented business culture. It is also often characterised as egalitarian which means that hierarchies do not play important role. Sweden is also considered highly consensus culture. Confrontation and conflicts are usually avoided. Having a lot of discussions and coming to a common sense is consequently very important. This peculiarity is reflected in the interviews. Respondents tend to initiate a lot of discussion with the client but when the client insists on some point consultants have no problem to follow them. Although emotionally reserved, Swedes tend to express themselves out loud. Such verbal directness may serve as evidence that during interviews respondents were honest and expressed with little latent implied sense. In other words they "mean what they say".

It worth noting, that much of currently growing sectors are situated outside of Nordic region. For instance, SAP reports strong growth in revenue in the Americas, especially the USA and Brazil. Besides Russian market is called as the one of "top SAP revenue growth generators" ('IT and Mobile Business', 2013). Thus, the ability of Nordic consultants to deliver effectively to other countries becomes crucial. It is now not yet clear how the requirements from the roll-out countries should be incorporated into the system architecture. The present challenge is to establish such a mechanisms.

6 Conclusion

Given that implementation of ERP system is an interactive process between client and consultancy and there is a lack of attention to the consultant's set of attitudes, this dissertation was designed. The aim of research was to explore the ERP implementation process from consultants' point of view. The research question was formulated as following: "How do consultants see the process of ERP implementation? How do they see the interaction with client?" Interviews with nine consultants were carried out, transcribed and analysed using systematic combining and grounded theory. The results of the study explore various challenges of implementation and how consultancies meet them. The results are also revealing more general opinions of consultants, for example how they see their own mission in the implementation project. Additionally, consultants' opinion about good client and the ways to influence them was explored together with the topic of nature of implementation process: how rational is it and what power/political issues play role?

The initial idea was to study different methodologies that are used in order to capture the needs and define benefits for client. By benchmarking approaches of consultancies it was then planned to compare strategies and measure their effectiveness. However, from empirical data it appeared that all methodologies are very much alike following waterfall model. Project management methodology suggest model which is systematic and rational but it lacks the experiences of various challenging situations that can reveal authentic behaviour of consultants. Consequently, the focus of the research shifted to studying the attitudes rather than theoretical models.

The results of research showed the variety of attitudes largely dependent on the particular project experience and interviewees' role in it. The methodology is seen as good framework to work in a structured way. Though, once mastered it goes a bit to the background. What makes a difference then is a set of other issues related to change management and project management. Implementation comes with a stress to the organisation so the client has to be prepared to cope with extremely complex project.

Consultants share some of attitudes. Namely, all of the respondents are willing to have enough of competent and devoted people to the project team. Another requirement for them is to have enough of power to make motivated decisions quickly and effectively. "Train the trainers" concept is largely used to the education of the users where consultants educate super-users and they in turn educate all the rest of end users. Consultants do seem to avoid system customizations and think that packaged solution incorporates all necessary functionality.

Other attitudes are different depending on the type of consultant, size and profile of projects they are working on. The differences are also related to activities that consultant attaches importance to ranging from communication, change management to active participation from client and scope control.

Equally the research sheds some light on the attitudes towards certain activities during implementation, e.g. scope control, testing, education, peculiarities of international projects. For scope control, the project managers with experience of large implementations suggested to reduce scope as much as possible. Others found it challenging to manage project with fixed price but constantly expanding scope. Testing of the system is referred to as important activity which however does not often get enough of attention from client. User acceptance during testing is a popular point of reference. The issue of power and politics was also discussed although the interviewees defined politics very differently and thus generalisation is not possible.

The results of this research can be used in future implementation projects:

- Client organisation can make decisions more effectively if they are aware of some patterns in attitudes of consultants, for example regarding customisations in the system.
- Consultants can benchmark themselves to fellow consultants and get an outsider look at their everyday job.
- For academic knowledge a gap in current research on ERP implementation was identified. This dissertation attempts to fill out the gap and add another angle of view on implementation process.

Future research should continue exploring the interaction between client and consultant with special attention to the consultants' point of view. The research method should be supplemented with observations and case studies which would study the phenomenon in long term perspective.

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8 Appendix

8.1 Appendix A – Interview Topics

1. What is your mission as project manager? How do you see your role and your main task?
2. What are each phase main challenges and typical problems? (could ask the person to tell about a chosen case)
3. If you follow the process of implementation from "A" to "Z", will the project end successfully? Why/why not?
4. Business process reengineering vs. customization. How do you decide the level of customization? What is your role BPR? What is the role of consultant in customization?
5. In the academic literature a lot of attention is devoted to critical success factors of ERP implementation. Some of them depend on the client e.g. top management support, composition of project team, resource availability. How do you try to influence them?
6. For international projects: Is implementation process different? In which way? How do you make sure you fit the country-specific context? How do you deal with country-specific functional requirements?