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# Enterprise system and business alignment:
## The role of an external consultant

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## Abstract

Enterprise system and business are aligned when enterprise system supports business strategy, goals and requirements. Enterprise systems help the organizations to increase their efficiency, to raise the productivity, quality and competition level. Organizations implementing enterprise systems usually don't have the required internal resources and knowledge to implement an enterprise system themselves and have to hire external consultants.

The purpose of the study was to gain more knowledge about the role of external consultants in aligning enterprise systems with business. We created a framework of enterprise system and business alignment from an external consultant's perspective. This framework was validated by doing qualitative interviews with experts of enterprise systems.

We found that involvement of an external consultant has a significant impact to enterprise system and business alignment. Our empirical findings showed that an external consultant has a crucial role and is a connecting part to achieve an alignment between enterprise systems and business. An external consultant by using his knowledge, personal characteristics and skills helps a customer to gain the maximum benefit from an enterprise system.

***Keywords:*** external consultant, enterprise system, business, alignment.

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Best regards,

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# 1. Introduction

The competitive advantage of organizations is affected by the ability to adjust their business strategy to the continuously changing business environment. Enterprise systems play a vital role in this process by helping organizations to efficiently manage their information and support their decisions (Davenport, 1998). Enterprise systems are also known as enterprise resource planning (ERP) systems or enterprise-wide systems and are a commercial software packages that integrate the financial, accounting, human resource, supply chain, customer and vendor information that flows throughout a company (Markus & Tanis, 2000; Davenport, 1998; Gable, 2005). The enterprise system combines the business processes to provide an overview of the business into a single information system (Gable, et al., 1998).

Over the past decades implementations of enterprise systems have grown in a rapidly rate (Starker & Lee 2003). Around enterprise systems a billion dollar industry has emerged that involves both the biggest software vendors and the largest management consulting organizations (Gable, 2005). In year 2006 the annual market of enterprise systems reached $28.8 billion and showed an overall market growing rate of 12% (AMR Research, 2007).

## 1.1 Background

According to Davenport (1998) a big issue with enterprise system implementation is aligning the enterprise system with the business. The importance of information technology (IT) and business alignment has been recognized by several researchers (Huang & Hu, 2007; Luftman, 2005; Avison, et al., 2004) and is still identified as one of the top five concerns for IT managers (Luftman, 2005). Alignment is used together with similar terms of harmony (Luftman, 2003), linkage (Henderson & Venkatraman 1999), integration, bridge (Avison, et al., 2004), synchronization (Prahalad & Krishnan 2002). In some cases the business is more specified as business strategy and IT or IS strategy (Henderson & Venkatraman, 1999; Huang & Hu, 2007). But not all researchers agree with the alignment. Smaczny (2001) argues that the alignment paradigm is not adequate since organizations have to meet certain requirements and conditions. Fundamentals as contemporary management uses structured and planning approaches to achieve business objectives and contemporary organizations are built on a mechanistic foundation. He further argues that the researchers do not question these fundamentals before suggesting the alignment paradigm. Instead he suggests using the term fusion to describe integration.

Reich & Benbasat (2000, pp. 82) define alignment as "to the degree the information technology mission, objectives and plans support or are supported by the business mission, objectives and plans". According to Luftman (2003), business and IT alignment is a process in organization where IT is applied in appropriate and timely way and is linked with business strategy, goals and requirements. Davenport (1998) claims that because of their in-built logic, enterprise systems force organizations to generalize and adopt their strategies and business processes. The benefit of alignment for a company is maximizing return on investment, achieve competitive advantage through IT and provide flexibility to quickly react to new opportunities (Avison, 2004). Enterprise system and business are aligned when the systems matches the business goals and objectives (Davenport, 1998).

Alignment has been on the top 10 on the key issues for IT executives list conducted by Society for Information Management for 24 years (Luftman, 2005). Luftman (2005) argues that it is important for the IT executives to understand and have an overall view of their own business. They should also work towards and plan for achieving alignment between IT activities and business. Gable (2005) argues that organizations don't have the required internal knowledge and resources to implement an enterprise system. Therefore they have to hire external consultants to help to successfully implement the enterprise system and align it with business. In our thesis an external consultant is a person from implementer side whose task is to identify business requirements and adopt them for efficient use of enterprise system on the customer site ensuring the enterprise system and business alignment.

## 1.2 Problem area

Reich & Benbasat (2000) investigated the social dimension of IT and business alignment. Their particular focus was to find out the factors influencing the relations between IT and business managers. Four factors were raised: shared domain knowledge, IT implementation success, communication between IT and business executives and connections between IT and business process planning. Reich & Benbasat (2000) found that all the criteria influenced the IT and business alignment in short-term, while only shared domain knowledge influenced alignment in long-term. Another finding was that shared domain knowledge together with IT implementation success work as a tool for better communication between IT managers and business executives and this in turn influences the alignment between IT and business. Hussin, et al., (2002, cited in Gutierrez et al., 2009, pp.201) studied the factors of IT sophistication, CEO commitment to IT and external IT expertise for business and IT alignment in small and medium enterprises. It was found that external IT expertise did not

have an impact to business and IT alignment. On the other hand Gutierrez, et al., (2009) recognize that small organization rely on external IT expertise.

Bessant & Rush (1995) distinguish three roles of IT consultant. The first one is a direct transfer of consultant's knowledge, which has already been tested and applied before. The second is the sharing of explicit or implicit experience, carrying ideas from one location and context to another location and context. The third role is working as "broker" which provides a customer access to specialized services.

The process of IT consulting is also considered as political and social arena, were different actors: management, employees and consultants all express and negotiate their interests. Therefore all of them play specific roles in the consultancy process (Niehaves, et al., 2004).

Although some research has been done, there is still limited research on what the external consultant's role is to achieve alignment between enterprise systems and business both in short and long-term.

## 1.3 Purpose

When studying enterprise system and business alignment we acknowledge that the external consultant's role in aligning business with the enterprise system requires a further study. Therefore our purpose is to:

*To gain more knowledge about the role of external consultants in aligning enterprise systems with business.*

This is a contribution to the body of knowledge about business and IT alignment as well as addition research done about the role of an external consultant to achieve alignment. This knowledge will possibly help practitioners to gain valuable information about selecting appropriate enterprise system consultants for the system implementation and to identify their crucial characteristics and skills.

## 1.4 Research question

We have formulated the following research question based on the stated purpose above:

*What is the role of an external consultant in enterprise system implementation in order to achieve business and enterprise system alignment?*

To be able to answer the research questions and to gain a better structure, our research question is refined into three investigation questions. These questions are used as guideline to get a better understanding of our research structure.

1. *What has been previously studied in the field of the external consultant's role in enterprise system and business alignment?*
2. *What is the role of external consultants in enterprise systems implementation?*
3. *How does external consultant relate to enterprise system and business alignment during implementation?*

## 1.5 Delimitations

Our study will focus only on the cases when enterprise systems are implemented with involvement of an external consultant. Even though in most cases are using external consultants to implement some companies have the required internal resources to implement an enterprise system on their own. Our thesis will cover the external consultants with focus and orientation on enterprise system implementation. Our research does not include other types of IT consultants, for example IT security or IT infrastructure consultants.

The enterprise system implementation projects are usually divided into different steps called phases (Project Management Institute, 2008; Häkkinen & Himolat, 2008) or stages (Ehie & Madsen, 2005; Weston, 2001). The external consultant mainly participates from the beginning of the implementation which starts with a preparation phase, till the system is rolled-out (Markus & Tanis, 2000). The role of an external consultant decreases in the later phases such as the support and maintenance phases. This thesis focuses on the implementation from preparation to the roll-out phase. This can be considered as a delimitation in our research since some consultant firms have their external consultant supporting the customer even after the implementation is done.

In our study we will only focus on consultants and gather empirical data from enterprise systems implementation consultants. Our research does not encompass gathering empirical information from customer side. We take this decision because external consultants have much knowledge about enterprise system implementation and they have multiple case experience. Therefore they will be able to provide us with information we need to answer or research questions. In contrast the customer could only have single, or by most few cases experience, and would not reveal the whole picture of our research field.

The interviews we conduct will all be from the same consultant firm. The consultants from this firm might be influenced by the company strategy and corporate culture, this might affect their way of thinking and therefore affect the results of our research. The company is a medium sized IT company located in Lithuania. This is also a delimitation of our study, because there might be differences between medium and small or large companies. In addition to that here might be that there are differences in Lithuania in comparison with other countries. Due to these restrictions there could be some limitation to generalize on our findings.

## 1.6 Research strategy

Here we will present the research strategy we have used throughout this thesis. In our pre-study we discovered a knowledge gap in existing body of knowledge which needed to be a further studied.

During our study we followed an iterative research strategy. Iteration means that we continuously revised our research question, literature review, framework and interview guide during our research. Revisions and changes were based on our literature review and findings of empirical analysis.

Based on our pre-study that we formulated a research question and investigation questions (see section 1.4). Then we conducted a literature review (see sections 2.1-2.6). According to our literature findings we created a framework (see section 2.7). To validate our framework, we created an interview guide which has the questions directly related to the framework (see section 3.4.1). During the interviews it showed that the interview guide needed to be revised, and some questions had to be reformulated to be able to gain the required knowledge from the interviews. We categorized our empirical gatherings from interviews using the structure from our framework. The findings were presented and analyzed in chapter 4. The summary of empirical findings and results of analysis is presented in a table 4.1. Our empirical findings required us to revise the literature part of the thesis. In the discussion we had to revise and do changes in our framework too (see chapter 5). In the conclusion (see chapter 6) we answered our research question, presented the limitations and proposed the possibilities for further studies.

# 2. Literature review

*Here we will present a review of the literature, which is relevant to our purpose and research question. We start this chapter by explaining what enterprise systems are. After that the key players in an enterprise system implementation is covered and further the role the external consultant is discussed. Thereafter we focus on external consultant and present his skills and characteristics that are vital for him. Later we present a definition of alignment, the impact of alignment for business and discuss the issues of enterprise system and business alignment. In the end of this chapter we present our framework. The framework is build upon a summary of literature. For further details about research strategy see section 1.6.*

## 2.1 What are Enterprise systems

Enterprise systems are enterprise-wide systems, which are designed to integrate data and processes of an organization into one single system (Markus & Tanis 2000). This could include financial management, supply chain management, human resource management and other information flows in the company (Strong & Volkoff 2004). Enterprise systems are called enterprise resource planning (ERP) systems (Gable, 2003). According to Davenport (1998) enterprise systems contain financial applications, manufacturing applications, inventory and supply applications, human resource applications, service applications, sales and delivery applications. Other authors (Markus & Tanis, 2000; Gable, 2005; Strong & Volkoff, 2004) state that enterprise system consist of five main elements: financial resource management, supply chain management, human resource management, customer relationship management and material resource planning. An overview of elements in ERP systems can be found in picture 2.1 and descriptions of these elements are presented below.

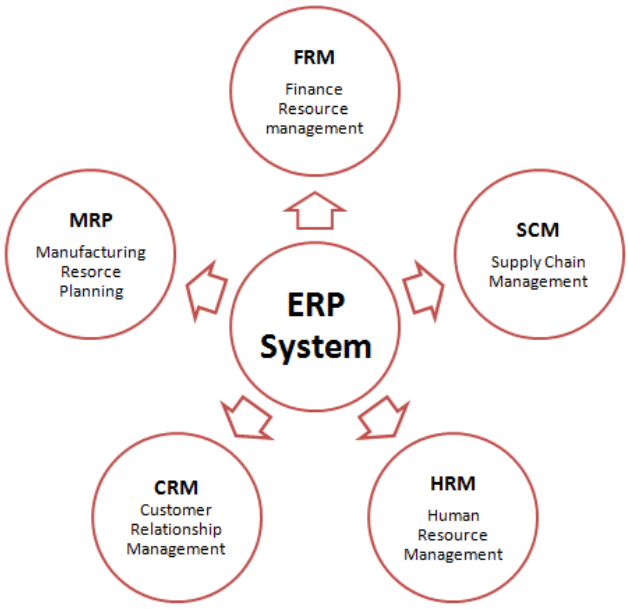



**Figure 2.1** – Elements of ERP System (created by authors).

FRM (Finance resource management) – gathers and structures the organizations financial and accounting information. They are also includes for example: product cost accountings, profitability analysis, financial consolidation, asset accounting etc. This is used get more accurate and efficient financial information but also to gain a organization better structure on the financial information. (Davenport, 1998)

SCM (Supply Chain Management) – a supply chain comprise manufacturers, wholesalers, retailers and distributors. The information flow has a direct impact on the production, scheduling, inventory control and delivery plans for every member of the supply chain. All involved parts in a supply chain benefits from coordinated activities and a good information flow. (Balan, et al., 2009)

HRM (Human resource management) - is management of the organizations people and how the individually contribute to the mutual goals and achievements in the organization. To gain strategic and competitive advantage through deployment of highly committed and skilled workforce using their cultural, structural and personal techniques. HRM focuses on the relationship and on managing the workforce. (Armstrong, 1999)

CRM (Customer relationship management) – CRM encompass a company's functions including sales, marketing and service. Customers can be defined both as partners and suppliers as well as purchasers. The goal of CRM is to coordinate all customer activities to gain value and profit using available technologies as customer databases, integration, processes, sales automation tools and manager. (Beishon, 2001)

MRP (Manufacturing resource planning) – is a method which has been used in ERP and resource manufacturing management. It's a method for effective planning of all resources in a manufacturing company, this to gain high quality, faster products, better service and lower price. (WenChao & Jingti 2009)

### 2.1.1 Why are enterprise systems important?

Enterprise systems are implemented in a company to increase their efficiency, to raise their productivity, quality and competition level (Gable, et al., 2003). It also becomes a part of the business and supports tactical movements and strategic directions (Chen, et al., 2009). With less delays in the processes and increased data quality, managers can analyze, uncover and address problem as they arise which lead to that the organization more easy can plan their operations (Strong & Volkoff 2004). Hitt, et al., (2002) conducted a research on the

performance rate of companies that had implemented enterprise systems. The results showed that companies which adapted enterprise systems showed a higher performance on sales per employee, profit margins, return on assets, inventory turnover, asset utilization and accounts receivable turnover, this resulted in higher revenue per unit of input. Their result also showed that most of the performance benefits the company achieved occurred in a long term.

### 2.1.2 Failures when implementing an enterprise system

Even though studies show that successful implemented enterprise systems gives a higher performance, a lot of organizations struggle to achieve expected returns on their investment and many projects tend to fail (Sarker & Lee 2003). Davenport (1998) also acknowledges the problem with failed implementations and suggests that business has to be prepared to change. The enterprise systems require the organization to adapt to the system not vice versa. From business this requires them to change organizational structures (Davenport, 1998). Wognum, et al., (2004) argues that the implementation phase of many enterprise systems projects partly or fully fails to reach their goals, this since the process turned out to be more difficult than expected. This process is complex, both because the system provides a newness to the organization but also since many new and different aspects need to be considered at the same time. Robbins-Gioia (2006) conducted a study where 51% of the 232 respondent companies over a wide range of industries stated that they are dissatisfied with the execution and success of their enterprise system. Wognum, et al., (2004) argues that one factor of an unsuccessful implementation is that the enterprise system and the organization must co-develop together during the implementation phase. Another factor is that businesses don't have the required knowledge or capacity to manage theses enterprise system implementation projects on their own. This knowledge then has to be extracted from an external source (Gable, 2005; Ko, et al., 2005).

## 2.2 The key players in an enterprise system implementation

The three key players involved in an enterprise system life cycle is the client, the vendor and the implementation partner or external consultant.

### *2.2.1 The client*

The client is the company or organization that wants to implement an enterprise system. Primary goals for the client it so improve their business performance and productivity but

also to increase their effectiveness to be able to compete on the global market. For the client it is a big step to integrate an enterprise system and even possible the largest project they have undertaken. This process could both be beneficial and risky (Gable, 2005). In enterprise system implementation the client could take the following roles: business decision maker, project manager, IT manager, key user and end-user (Microsoft Dynamics, 2006).

### *2.2.2 The vendor*

The enterprise system market has become a global phenomenon and is today a multi-billion dollar market (Gable, 2005). This attracts the biggest software vendors in the world; SAP, Oracle, Infor, Sage Group, Microsoft (AMR Research, 2007). These multinational companies are trying to compete for the client's attention and for the client to choose their system. Even the vendors gain on an effective implementation and a good knowledge management. Vendors always gain on positive feedback since they want to readdress the customers' expectations that enterprise systems is difficult to manage, expensive and time costly to integrate (Gable, 2005).

### *2.2.3 The implementation partner or the external consultant*

As well as the biggest vendor companies the biggest consultant firms are also fighting for the client's attention. The external consultant's role is to help the client with key decisions and to transfer their knowledge about implementing an enterprise system to the client. External consultant could include project manager, decision-maker, arbitrators and knowledge facilitators. In our thesis an external consultant is a person whose task is to identify business requirements and adopt them for efficient use of enterprise system on the customer site. Benefits for the consultant firm comes if the client feels satisfied with the services and recommend them or further want to continue to collaborate. In this way more business is created for the consultant firm. But also the information consultant firms acquire during the implementation process could be transformed into valuable knowledge, this could be beneficial for their competitiveness. It is also common that the consultant firm have and offers support on their implemented enterprise systems. (Gable, 2005)

### *2.2.4 Relationship between key players*

The figure 2.2 shows the key players of enterprise system implementation and how they relate together in an enterprise system implementation. The three key players found in the dark cloud need a developed knowledge management for an efficient collaboration. The

vendor provides software and training to the different consultant firms that are willing to invest. The consultant firms then gains a partnership with the vendor company.

The consultant firm then gets hired by clients that are willing to invest in an enterprise system. Here is it important for the knowledge transfer to take place, the knowledge transfer should work in both directions. The knowledge about the enterprise system and how to maintain and manage it should be transferred from the consultant firm to the client. The client should also transfer the knowledge about their business to the consultants. The consultant firm also have the opportunity to learn from this new implementation case.

The clients expect the consultant firms to provide them with the necessary knowledge to maintain and manage the system with the help of the external consultant after the implementation phase. This means that a knowledge transfer between the employees of the client and the external consultants are required. This is necessary for the client to be able to gain the expected performance from the enterprise system. (Ko, et al., 2005)

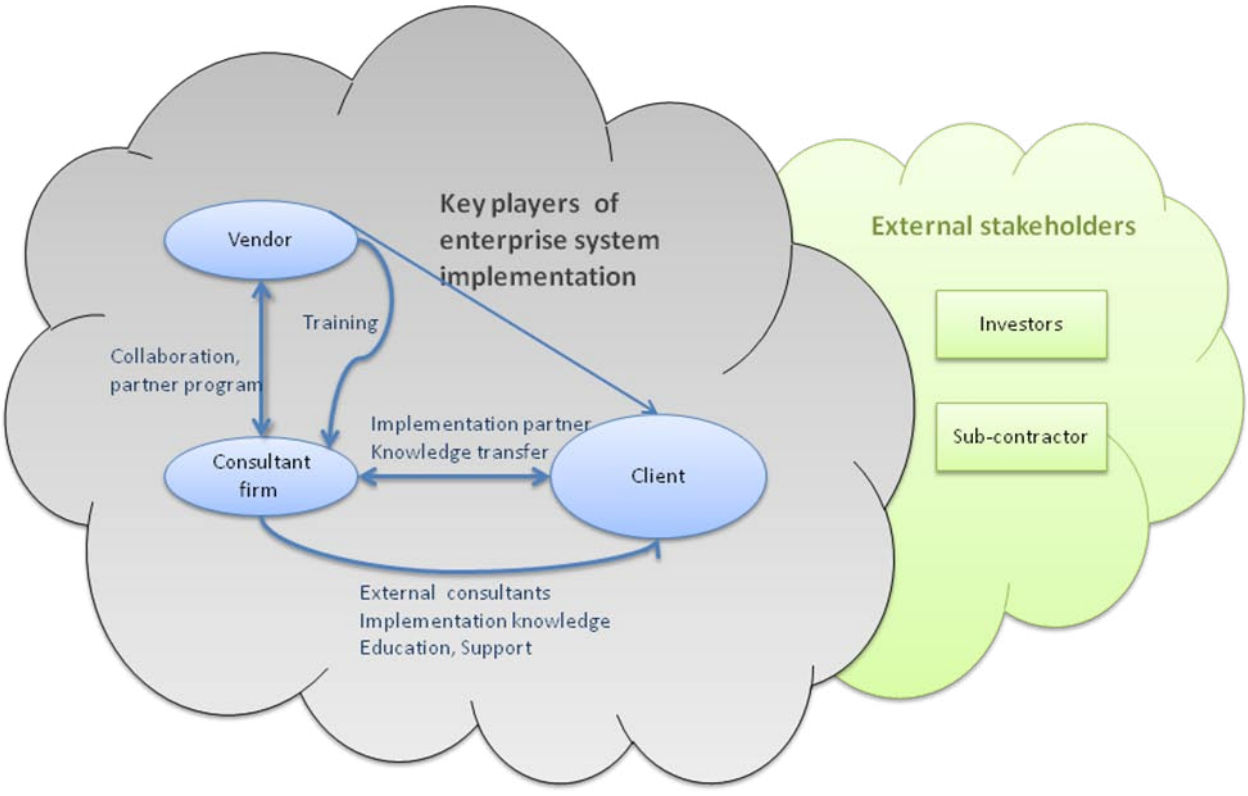



**Figure 2.2** – Key players of enterprise system implementation (created by authors).

Avison & Fitzgerald (2006) refers to the involved people in an information system as stakeholders. Stakeholders represent a broader set of people that have involvement in, or are

affected by the development, implementation, impact or use of information systems. Stakeholders for an information system include; shareholders, investors, employees, customers, vendors, sub-contractors, trade associations, environmental groups, government communities etc. For enterprise systems Davenport (1998) mentions investors and sub-contractors as important ones, these are therefore specified in figure 2.2.

## 2.3 External consultant roles and characteristics

Enterprise system vendors are often supporting their consultant firms with help of a partner program. A program often supports information and training of the system as well as certification. The vendors also helps their consultant firms with providing them with methodologies and ways of working, an example is Microsoft that provides their consultant firms with an implementation methodology. In this methodology they recommend and identify different roles in the implementation process on both the consultant side and the customer side (Microsoft Dynamics, 2006). Below we describe the different consultant roles.

### *2.3.1 Consultant roles*

Microsoft Dynamics (2006) identifies five different functional consultant roles: *project manager, engagement manager, application consultant, development consultant* and *technology consultant.* In a project one person could have responsibility for one or more roles.

- *Project manager* – have to overall responsibility and manages the project. This task is sometimes collaboration between the consultant project manager and the customers' project manager.

- *Engagement manager* – helps manage and communicate with the customer. After the sale representative hands over the customer contact it's the engagement mangers task to facilitate the hand-over. They also help to engage and support the customer relationship.

- *Application consultant* – their role is to analyze the business processes and to facilitate the gap between the business and the system. They also describe requirements, designs modifications, test modifications, configure the system and performs training.

- *Development consultant* – estimates and evaluates the requirements of the system and participates with design modifications. They also perform and develop unit test modifications.

- *Technology consultant* – have the overall responsibility to analyses and set up infrastructures but also evolve and evaluates the existing infrastructures. Their task is also to create different environments, for example test- and live environments. They also got the technical responsibility for the system like to perform upgrades, optimize performance and to install software.

In this thesis an external consultant role is defined as wider than only functional role. It includes functional role, but is also implicates the influence, the impact of an external consultant in enterprise system implementation process.

### *2.3.2 Characteristic and skills of an external consultant*

Djavanshir & Agresti (2007) claim that communication skills are critical in IT consultancy process. According to Monge (1982, cited in Ko, et al., 2005) a communication skill is the ability to demonstrate knowledge of appropriate communication behavior to effectively achieve one's goals. IT consultants must be proactive in starting communications with customers, they should also avoid pitfalls, disappointments and frustrations. They should also be able to judge when to use the best mean of communication writing, speaking and listening. An external consultant must ask open ended question and be able to listen to understand the customer priorities. The communication of consultant must be ethical (Djavanshir & Agresti 2007). As there often risks of conflicting or pressure between consultant and business representatives, one of skills of communication is conflict resolution (Wang & Chen 2005).

Basselier & Benbasat (2004) say that relationship building of IT professionals has become core capability in organization. To be able to communicate with people from different functional areas the IT professionals must develop a common dictionary, conceptual knowledge of business and gain working experience with business people. A qualified consultant shows a high level of personal commitment and is trusted by customer (Wang & Chen 2005).

Ability to get deeply into customers business is one of the key issues of any consultant. In information systems implementation this process should be mutual: IT specialists must

understand business managers and their processes, while business managers should be able to understand the IT processes (Reich & Benbasat 2000). There are potential communication difficulties when IT and business specialist fail to recognize differing values and views among each other (Ko, et al., 2005). The mutual understanding is also known as shared domain knowledge. Shared domain knowledge is defined as "the ability of IT and business executives, at a deep level, to understand and be able to participate in the others' key processes and to respect each other's unique contribution and challenges" (Reich & Benbasat 2000).

Wang & Chen (2005) claim that ERP consultants must have system knowledge, industry specific expertise, which makes them different from traditional IS consultants. ERP consultant needs to understand the details of customer's business practices, find the applicable modules and be aware of change management. External consultants together with top management of client are critical persons to influence the outcome of ERP implementation (Wang & Chen 2005).

Basselier & Benbasat (2004) define competence as "non-routine and embodied ability to cope with changing environments". IT professionals must have understanding about organization, its business context and how is it supported by technology. Also knowing the organizational goals and objectives is crucial. Business knowledge allows IT professionals to build relationships with customers. It serves as a language to speak and to understand them. A broader business knowledge is essential to have a perspective about business and its objectives and to maintain alignment between IT and organization strategies (Basselier & Benbasat 2004). IT professionals act as "problem solvers" and integrate business development with IT-capabilities. According to Basselier & Benbasat (2004), IT professionals must have a broad business perspective, strong analytical and critical thinking skills. IT professionals should also understand customer's needs, see his problems and to see a big picture how parts correlate to the whole system (Sawyer, 1998, cited in Basselier & Benbasat, 2004, pp.680), experience plays a vital role to achieve this. Experienced consultants are well trained in enterprise systems implementation methodology and have real system deployment experience (Wang & Chen 2005). An external consultant work quality is measured how reliable amount of support, help and work they can provide (Yoon & Suh 2004).

In enterprise system implementation an external consultant can have different preferences and motivation (Niehaves, et al., 2006). During a sales process a consultant may be interesting in selling as much system functionality as possible, to make a bigger profit. During implementation external consultant could seek to implement ”vanilla” or unmodified standard version of a system. During a project closure an external consultant could be interested in finishing a project with least possible resources (Niehaves, et al., 2006). The motivation of external consultant can be divided into intrinsic and extrinsic (Ko, et al., 2005). Intrinsic motivation means that an employee is satisfied with the work itself, while extrinsic motivation means that there are external motivators, which influence employee, for example a monetary bonus (Ko, et al., 2005).

## 2.4 The implementation of enterprise systems

Chen, et al., (2009) argues that the implementation and post-implementation phases of an enterprise system is long and that this process often spans over years. Since an enterprise system is a very important step for the company to expand their tactical and strategically moves the implementation of the enterprise system becomes very important for the company. But the success rate of IT projects are low, it’s determined by (Keil & Robey, 2001 cited in Chen, et al., 2009) that about 74% of IT projects cannot deliver the promised functionality on budget and time. An enterprise system will be considered a failure if it doesn’t provide any benefits for the company (Chen, et al., 2009).

### *2.4.1 ERP implementation phases*

Ehie & Madsen (2005) distinguish five ERP implementation stages: *project preparation, business blueprint, realization, final preparation, go live* and *support.* During the preparation the project plan is prepared. During the blueprint an extensive business processes analysis done and map of future business processes is drawn. In the third phase a technical solution is constructed and a pilot implementation is run. In the final preparation phase all system is tested with full data and in extreme situations, while at the same time a user training is conducted. The last phase is about actually starting the ERP system and doing on-going improvements. (Ehie & Madsen 2005)

Häkkinen & Himola (2008) presented ERP experience cycle, which divided the implementation into four phases: *project chartering, project configuration and rollout*, *a shakedown, onward and upward* (see figure 2.3). This figure summarizes the implementation phases which are presented in academic articles (Daverport, 1998; Marcus & Tanis, 2000) and

practitioner's implementation methodologies (Microsoft Dynamics, 2006). Chartering phase covers the funding decision for enterprise system. The project phase means getting the system running in one or several departments. Key activities are system configuration, data loading, user training and testing. The shakedown phase occurs when organization normalizes and starts using the system full scale. The final phase means use and operation of system until it is replaced with upgrade or new system (Häkkinen & Himola 2008).

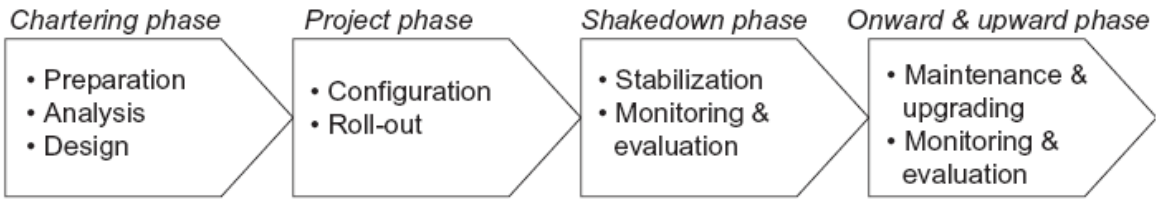



**Figure 2.3** – Overview of the ERP implementation process (Häkkinen & Himolat 2008).

Three types of ERP implementation methodologies are extinguished: a big bang, a modular implementation and process oriented implementation (Bancroft, et al., 1998). A big bang means that all modules are launched at same time, but this appeared to be too difficult and unsuccessful. A modular implementation is most widely used meaning that specific module is started at a time usually within particular department, and later in the project all the modules are integrated together. The process oriented implementation means that some important business process is launched at the same time, usually encompassing few modules and few departments.

### *2.4.2 ERP Implementation methodology*

An implementation methodology is a set of tools methods, techniques and templates that are used by practitioners when implementing an enterprise system. A methodology defines the roles and tasks for the project team both from the implementer and customer side (Marcus & Tanis 2000). All ERP vendors usually provide their recommended implementation methodology together with the product. SAP implementation methodology called "ASAP Implementation Roadmap" has the following phases of ERP implementation project: project Preparation, business Blueprint, realization, final Preparation and Go Live & Support (SAP, 2009). Microsoft Dynamics implementation methodology "Sure step" consists of these phases: Sales, Diagnostic, Analysis, Design, Development, Deployment, Operation, Sales

optimization, Upgrade (Microsoft Dynamics, 2006). Oracle's "Application Implementation Methodology (AIM)" consists of the following implementation phases: definition, operational analysis, solution design, build, transition, production (Anand, 2007). A quick review of the ERP implementation phases of the different vendors shows that they follow the same process: firstly, some business analysis is conducted, then a solution is specified and designed and lastly the solution is deployed.

### *2.4.3 Project management*

Chen, et al., (2009) also argue that project management has a very important role in an enterprise system implementation. Even if the research on this field is limited the researches done about this points to the fact that a project management in a high grade helps with the success rate of implementation of an enterprise system. To get a successful implementation of an enterprise system it's not only important to have a project manager but also that the specifications set by the project managers in collaboration with the project team have the right goals and limits from the beginning. Without a proper and a good estimated schedule, quality and budget the project have a higher rate of failure. (Chen, et al., 2009)

The project manager main task is to help the organization to achieve the projects objectives and goals (Project Management Institute, 2008). Chen, et al., (2009) identifies the project manager as a success factor for a successful implementation of an IT project. This is supported by a research done by the company Robbins-Gioia LLC, their result show that companies with a project management office have a lower grade of failed enterprise system implementations. Their quantitative research conducted on 232 respondents show that the 56 percent had a project management office, and only 36 per cent of these felt that their enterprise system implementation was unsuccessful. While for the other 44 per cent of the respondents that didn't have a project management office responded that 51 per cent of the enterprise systems were unsuccessful implemented (Robbins-Gioia, 2002).

Different responsibility levels of a project manager exists, this is depending on the structure of the organization, some cases the project manager reports to an function manager while in other cases one or several project managers report to a portfolio or a program manager. This is to ensure that the project plan aligns with the overall goal of the organization (Project Management Institute, 2008).

Project Management institute (2008) identifies applying the knowledge, tool and techniques as good practice for a project manager. They divide the knowledge of a project manager into

nine areas: schedule, quality, budget, scope management, human resource management, risk management, communications management, procurement management and integration management. But these factors are not enough to achieve an effective project management. The project manager should also in addition to area specific skills and general management skills also hold the following characteristics: *knowledge, performance,* and *personal* (Project Management Institute, 2008).

- *Knowledge* – Body of knowledge the project manager possess about project management.
- *Performance* – What the project manager will be able to achieve and adopt their knowledge about project management.
- *Personal* – The characteristics of a project manager and how he/she uses them and behaves when managing a project. Also how the person interprets and encompasses attitudes, personal characteristics and leadership. The ability to guide the project team to achieve the scope and the goal of the project.

## 2.5 Knowledge Management and Knowledge Transfer

To ensure a successful implementation of an enterprise system it is important both for the client and the consultant side that a knowledge transfer exists. This is since an implementation requires variety of experience, expertise, skills and collaboration but also to ensure that the requisite enterprise system knowledge is available (Scorta, 2008). In an implementation project there often exist different type of people with different experience and background. One factor that is important for the success of the implementation is how well this information is dispersed among the team members and within the organization. Therefore it is needed to, within the project team to develop bridging relationships to access this knowledge. For this to happen there has to exist an understanding and a willingness to communicate within the project team and with other members in the organization (Newell, et al., 2004).

### *2.5.1 Concepts of knowledge and knowledge management*

According to Sherif & Xing (2006) for the last decade *knowledge* became a foundation of knowledge-based theory of organizations. This theory supports organizational learning, innovation, management of business relationships and adaptation to environment (Sherif & Xing 2006).

Alvesson (2004) argues that *knowledge* includes the exercise of judgment and the capacity to make interpretations. Spender (1996, cited in Newell, et al., 2004) highlights distinction between individual and social knowledge. All knowledge is created within an organization and it is a crucial competitive resource, which is hard to imitate and copy. Blacker (1995, cited in Newell, et al., 2004) distinguishes five types of knowledge:

- *Embrained* – dependant on conceptual skills and cognitive abilities;
- *Embodied* – action oriented and is only partly explicit;
- *Encultured* – refers to process of achieving shared understanding through the development of organizational culture;
- *Embedded* – resides in systematic routines: relationships between technologies, roles, procedures and routines;
- *Encoded* – expressed by signs and symbols either in manual or electronically transmitted form.

Another way of explaining knowledge is comparing it with data and information. Data and information is not the same thing as knowledge, knowledge is developed from information and takes it a step further. Knowledge is conclusions drawn from information that has been applied or compared to something that is already known. Books, articles, journals etc. contain information, but its first when the information is used by a person it becomes knowledge. Compared to data and information knowledge must always have a human factor. Knowledge exists in two different forms, *explicit*- and *tacit* knowledge (Daft, 2007).

*Explicit knowledge* - This is knowledge that is formal and systematic that can be codified, written down and shared among others in instructions, documents, books etc. This knowledge is in general easy to understand and share (Daft, 2007).

*Tacit knowledge* – Tacit knowledge on the other hand are hard to share because it's hard to put into words. Tacit knowledge is based on: personal experience, judgement, intuition, insight, know-how, rules of thumb and individual insight. These are all difficult to communicate and pass over to others. This knowledge is considered more valuable since it creates a context for people, ideas and experience. The process to transform tacit knowledge into explicit knowledge is known as codification or articulation. But to be able to effective share tacit knowledge it general requires a good communication, contact and trust. (Daft, 2007).

*Knowledge management* is used "to develop a systematic set of processes for the creation, organization and dissemination of knowledge, using different technologies and supported by a knowledge-creating and a knowledge-sharing culture" (Sherif & Xing, 2006, pp. 530). According to Newell, et al., (2004) emphasis of knowledge management is identifying, extracting and capturing the "knowledge" assets of the firm so that they can be fully exploited and fully protected as a source of competitive advantage. Alvesson (2004) argues that knowledge management involves intensive use of IT and blending a company's internal and external information and turning it into actionable knowledge by using IT.

Hansen, et al., (1999) presents knowledge management from codification and personalization perspectives. Codification means that knowledge can be made explicit, can be codified and stored in databases. On the hand, the personalization perspective means that knowledge can only be implicit on knowledge is shared through direct interaction. Companies have explicit product, should use codification and ones with tacit product should use personification. Table 2.1 summarizes different types of knowledge and knowledge management perspective show how explicit and tacit knowledge affects knowledge management.

**Table 2.1** Different types of knowledge. Summary by authors of Hansen, et al., (1999).

| **Knowledge type** | **Explicit** | **Tacit** |
|---|---|---|
| **Description of knowledge** | Formal and systematic that can be codified, written down and shared among others in instructions, documents and books. | Tacit knowledge is hard to express and is based on: personal experience, judgments, intuition, insight, know-how, rules of thumb and individual insight. |
| **Tools needed to use the knowledge** | High-quality, reliable and fast information systems for access of codified, reusable knowledge. | Individual expertise channels to provide creative advice on strategic problems. |
| **Knowledge management perspective that are used to manage this knowledge type** | Codification perspective - developing an electronic document system that codifies, stores, disseminates, and allows reuse of knowledge. | Personalization perspective - developing networks for linking people so that tacit knowledge can be shared. |

### *2.5.1 Knowledge transfer between external consultant and the client*

Wang & Chen (2005) argues that for a successful ERP implementation prerequisite are information and knowledge sharing. Communication effectiveness is the extent to which consultants and users can understand the other side in the consultancy process. Ford (1984,

cited in Wang & Chen, 2005, pp.1031) says that effective communication is crucial to establish a client and consultant relationship. It is also said, that insufficient clarity of needs and expectations leads to ineffective communication and poor relationships. During ERP implementation the effective communication between the consultant and clients leads to delivering a better system configuration. But there exists knowledge asymmetry between the client and consultant, because competent consultants hold valuable knowledge. They have the knowledge in implementation methodologies and also have implementation project experience (Wang & Chen 2005). To be able to provide a successful consultation ERP consultants need to have sufficient technical and managerial skills to establish their expert power (Wang & Chen 2005). McLachlin (1999, cited in Wang & Chen, 2005, pp.1032) without sufficient knowledge and good communicational skills, consultants provide improper business practices or recommend insufficient solutions.

The required knowledge transfer should help the client to both contribute to a successful implementation but also to learn to maintain the system without the consultants. Since the consultants mainly have the technical knowledge and the client primary the business knowledge there has to be collaboration between the two to extract the required knowledge for a successful implementation (Ko, et al., 2005). Researchers use different definitions on knowledge transfers, in our work we refer knowledge transfer as Darr & Kurtzberg (2000) definition, "Knowledge transfer has occurred when a contributor shares knowledge that is used by an adopter". This focus on when the client uses the information to their advantage and this is important for the organization not only to learn but also to use the experience from external sources to be able to compete.

### *2.5.2 Knowledge management in enterprise system implementations*

Knowledge management has in enterprise system implementations been identified as a critical factor for success (Sedera, et al., 2003; Gable, 2005; Davenport, 1998; Gable, et al., 2003). Knowledge management refers to how the organization uses and administrates knowledge within the company (Gable, 2005). Rus, et al., (2001) argues that knowledge management is not only know-how for a company but also know-where, know-who, know-what, know-when and know-why.

A good knowledge management between the external consultant and the client is important for the longevity of the enterprise system. Since most of the external consults withdraw from the project at the end of the implementation phase and transfer the responsibility back to the

client. For a client to keep the knowledge relevant in a longer time span they have to seek support externally. The amount of support the client needs after an implementation project is dependent on the knowledge transferred during implementation phases. Other factors that affect the amount of support a client needs could be: loss of key employees, major upgrades, configuration changes and so on. (Gable, 2005)

Most of the consultant firms are active in the area of knowledge management and invest to continue to expand this field. A good knowledge management in a consult firm gives them advantages to compete with (Alvesson, 2004). It helps to capture knowledge from consulting experience and to use this knowledge to benefit their customers by providing high quality and efficiency services. The consultant firms uses four key means for this tasks relating to enterprise systems: software templates, methodologies, configurable electronic knowledge repositories, education and training materials (Gable, 2005).
It's important that a knowledge management exists between the client and the external consultant, though this is relevant for a long lasting and efficient enterprise system investment. Knowledge management affects and benefits all three key players positively (Newell, et. al, 2004).

## 2.6 Business and enterprise systems alignment

This is a review of business and IT alignment, the factors that influence business and IT alignment, the taxonomy of alignment, the use of strategic alignment model and the critique of alignment phenomena. Based on the findings an enterprise system and business alignment is defined.

### *2.6.1 Definitions of business and IT alignment*

Huang & Hu (2007) define alignment as mindset for IT to work for and with the business all the time which include matching system operations with the company's goal and strategy. While Luftman (2005) defines alignment as "Alignment means applying IT in an appropriate and timely way, in harmony with business strategies, goals, and needs." (Cited in Luftman, 2005, pp.271). Reich & Benbasat (2000) define alignment as; "to the degree the information technology mission, objectives and plans support or are supported by the business mission, objectives and plans." (Cited in Reich & Benbasat, 2000, pp.82). Maes, et al., (2000) define alignment as "*the continuous process, involving management and design sub-processes, of onsciously and coherently interrelating all components of the business – IT relationship* in order to

contribute to the organization's performance over time". With this definition authors define alignment as a dynamic process.

We can see that the definitions of business and IT alignment are devoted to more global phenomenon of IT rather than to specific IT fields, such as enterprise systems or any other kind of information systems. The same can be said about business, some authors call it business and IT alignment, while others are more specific and call it business strategy and IT alignment. As there is no definition for enterprise systems, in our work we define enterprise system and business alignment based on Reich & Benbasat (2000) definition. In this thesis enterprise system and business are considered as aligned when enterprise system supports business goals and strategy.

### *2.6.2 Factors that influence alignment*

IT and business alignment is influenced by many factors, such as a support from senior management, good working relationships, leadership, appropriate prioritization, trust, effective communication, thorough understanding of business and understanding of technical environment (Luftman, 2003).

Chan, et al., (2006) conducted two quantitative studies on the antecedent factors of IS and business alignment. Study 1 covered business firms while study 2 covered both public and private academic institutions. Totally they received 226 answers on study 1 and 244 answers on study 2. Of the totally 470 answers, 248 of these were conducted on Chief information Officers, Executive Vice Presidents, Senior Vice Presidents or Vice Presidents. Their findings indicate that alignment is affected by shared domain knowledge and prior IS success. They also show results that alignment gives a positive impact on organizational performance. (Chan, et al., 2006).

Gable, et al., (2003) has developed a model for measuring the different success factors in an enterprise system implementation, these success factors are collected by the authors through literature review, survey and a series of expert workshops. The model is divided into five separate dimensions of success: *system quality, information quality, satisfaction, individual impact* and *organizational impact.* The model doesn't show any causality between the dimensions, it's rather for illustrating important success factors to reach enterprise system success. See figure 2.4).

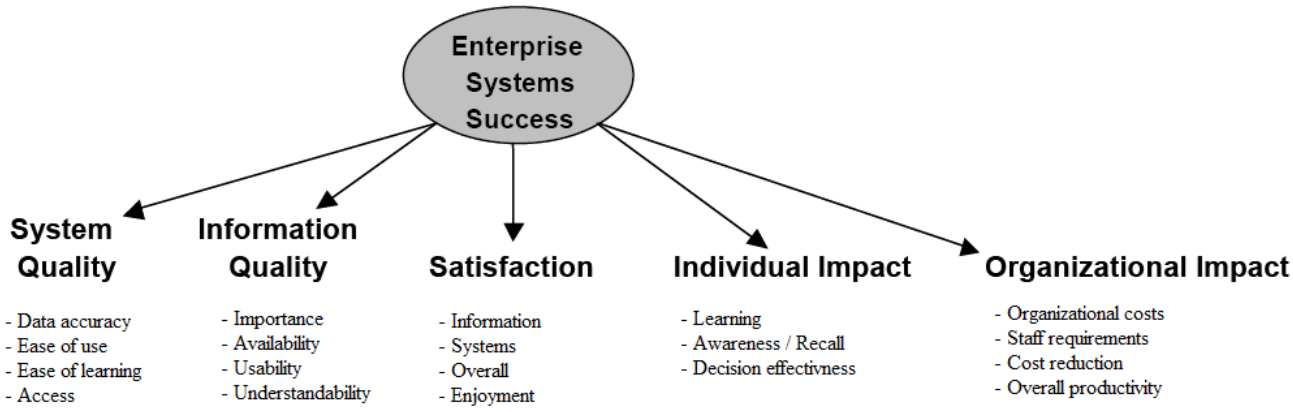



**Figure 2.4** – Enterprise System Success factors (Gable, et al., 2003).

### *2.6.3 Tools for improving alignment*

The most researched theoretical model for business and IT alignment is the strategic alignment model (SAM) (Gutierrez, et al., 2009). The model is constructed of four strategic domains: business strategy, IT strategy, organization infrastructure and processes and IT infrastructure and processes (Henderson & Venkatraman 1999). According to the SAM model strategic alignment is based on strategic fit and functional integration. Strategic fit means addressing external domain (market in which organization competes) and internal domain (selecting appropriate administrative structure). It is argued that neither the strategic alignment, nor functional integration by themselves is enough, for this reason a combination of two domains is required (Henderson & Venkatraman 1999). The combination of two derives four available alignment perspectives, summarized in table 2.1. First two are driven by business, and the latter two are driven by IT. As advised by authors of SAM, there is no best choice perspective. If we looked at the case of ERP systems, both strategy execution and Technology transformation perspectives would be relevant when the organization decides to implement the ERP system to improve their business. On the other hand, if all the competitors are using old legacy system, the use of ERP system could be a beneficial competitive advantage for organization. In such case a competitive potential perspective would also be relevant.

**Table 2.2** Summary of strategic alignment perspectives. Summary by authors of Henderson & Venkatraman (1999).

| Name of Alignment perspective | Logic of alignment perspective | Driver | Role of top management | Role of IS management |
|---|---|---|---|---|
| Strategy execution | Business strategy -> Organizational infrastructure -> IS infrastructure | Business strategy | Strategy formulator | Strategy implementer |
| Technology transformation | Business strategy -> IT strategy -> IS infrastructure | Business strategy | Technology visionary | Technology architect |
| Competitive potential | IT strategy -> Business strategy -> Organizational infrastructure | IT strategy | Business visionary | Catalyst |
| Service level | IT strategy -> IS infrastructure -> Organizational infrastructure | IT strategy | Prioritizer | Executive leadership |

Presley (2006) investigated the use of strategic alignment model for enterprise system investment decisions. He claims that due to their complexity enterprise systems shouldn't be evaluated by net present value or payback value like any other investments. Use of strategic alignment model enables to take issues of strategic thinking, information system planning and organizational design into account. (Presley, 2006)

Soffer, et al., (2003) claim that ERP alignment process consists of two elements – ERP configuration and the enterprise business solution. According to them the alignment is adopting the general package to the specific needs of enterprise.

Soffer, et al., (2003) present a requirement driven alignment approach. This approach is dedicated to enterprises which have unique business processes and the best practice approach usually used in ERP implementation doesn't allow them to use the full potential of ERP. To solve such problems the business requirement modeling method called "ERP model" is proposed. It is a modeling approach and consists of four steps: global level, system configuration level, object level and occurrence level also showing interdependencies among these elements.

### *2.6.4 Measuring business and IT alignment*

Although the phenomenon of business and IT alignment is quite vague and generic, some authors argues that alignment can be measured (Avison, et al., 2004; Luftman, 2003).

Avison, et al., (2004) have developed a practical framework to identify the current level of alignment with the business but also to control the future alignment. This framework is

developed to be used by managers in general but the authors predict that the framework to a higher degree will be used by technology managers.

To measure the alignment and understand the business and its alignment the managers need to do a domain analysis. A domain analysis should include a completed document that in detail describes the firm, information, IS and technology from three different perspectives; strategic, structural and operational. The purpose of this document is to create a good understanding of the firm, its interrelationships and interdependencies. This will allow the managers to put together information and create graphical representations of the firm from a strategic, structural and operational perspective. This is identified as a four step process by Avison, et al., (2004). When this process is finished it will lead to a result that identifies the type and the degree of alignment, which will help the manager or the management team to see if the IT strategy is aligned with the business strategy (Avison, et al., 2004).

Luftman (2003) provides a methodology to asses the level of IT and business alignment. His methodology consists of five possible levels of alignment, which are evaluated according to the processes run in a company to attain alignment. The five levels are as follows: Level 1 no processes (no alignment), Level 2 beginning process, Level 3 established process, Level 4 Improved process, Level 5 optimal process (complete alignment). The total score is of alignment is determined according to response to 38 questions, categorized in six so called maturity criteria or IT-business alignment criteria. The criteria are: communication maturity, competency/value measure maturity, governance maturity, partnership maturity, technology scope maturity, skills maturity. Communication maturity encompasses knowledge sharing between business and IT professionals. Competency/value measure maturity deals with clarifying whether the right measures are used to evaluate IT value for business. Governance maturity enables the analysis of the authority for resources, risk, conflict resolution in organization. Technology scope maturity answers the technology and innovation related issues. Partnership maturity defines how much IT strategy and personnel can influence the business strategy in organization. Finally, skills maturity explains the human resource issues, such as how to hiring, firing, motivating, training, sustaining organizational culture. (Luftman, 2003)

Luftman (2003) committed a survey of 50 top world companies executives, and the results showed that most of respondents positioned themselves at Level 2, which means that the processes of alignment is just at beginning phase.

### *2.6.5 Types of business and IT alignment*

Cumps, et al., (2006) argue that alignment between IT and business is a dynamic process rather than a static state. This is supported by Luftman (2005); Grant (2003); Maes (2000); Reich and Benbasat (2000); Henderson & Venkatraman, (1999); Sabherwal, et al., (2001) created a punctuated equilibrium model which can be used to examine the dynamics of alignment.

Weiss, et al., (2006) distinguish three business and IT alignment profiles. Technical Resource profile means that IT applies to administrative operations in a table environment. The benefits of this profile are the increased functional expertise and focus on innovation. Business enabler profile acts as a support for business and increase efficiency, for example IT enables the business to reduce cost, improve quality and etc. According to Weiss, et al., (2006) ERP and other large scale information systems are belong to this profile. The third profile is strategic weapon, which represents that IT aligns with strategic change to re-position the organization or drive the market. Strategic weapon alignment is the most challenging to plan and implement.

Results of research showed that most companies positioned themselves as business enabler profile representatives, followed by technical resource.

### *2.6.6 Critics on alignment*

Maes, et al., (2000) discuss whether alignment should be interpreted as a final or temporary outcome, or as a process leading to this outcome. Authors also provide biggest critique to alignment, firstly alignment is not clearly defined and secondly it offers no direct use for management practice.

Some authors neglect the existence of alignment, stating that such concept does not exist and suggest use the term fusion to describe integration between business and IT (Smaczny, 2001).

## 2.7 Framework of enterprise system business alignment and summary of the literature review

We created a framework of enterprise a system and business alignment from an external consultant's perspective (see figure 2.6) based on our literature review. This framework is a modified model from Reich & Benbasat (2000) research model (see figure 2.5). Reich & Benbasat (2000) focused on social characteristics of IT and business alignment. The social characteristics of alignment by Reich & Benbasat (2000) especially focus on the factors influencing the relations between IT and business managers. Four factors were raised: shared

domain knowledge, IT implementation success, communication between IT and business executives and connections between IT and business process planning. The research model is divided into three parts: antecedents[1], current practices and alignment. Both shared domain knowledge and IT implementation success are considered as antecedents who influence current practices: communication between IT and business executives and connections between IT and business process planning. The latter ones, in consequence, influence the IT and business alignment.

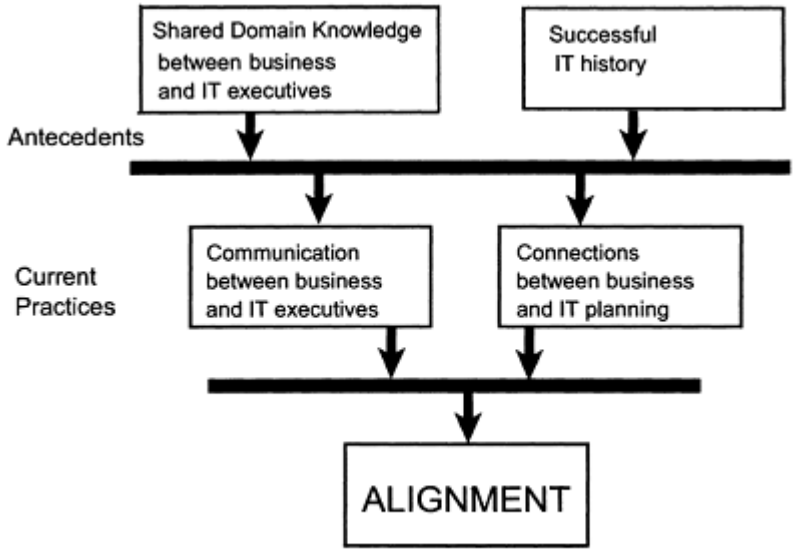



**Figure 2.5**. Framework of the social dimension of alignment between business and information technology objectives (Reich & Benbasat 2000).

Based on our literature summary, we modified the framework of Reich & Benbasat (2000) to better fit enterprise system and business alignment from an external consultant perspective. We have the following arguments for using and modifying Reich & Benbasat (2000) framework. Firstly, Reich & Benbasat (2000) researched the relationship between IT specialists and business managers from alignment perspective. Secondly, Reich & Benbasat (2000) used a qualitative study by interviewing 45 IT and Business managers and this research strategy is similar to ours. Thirdly, our addition to the model is a focus on external consultants and their role on enterprise system and business alignment.

[1] Antecedent is an event or circumstance that happens or exists before another event (Reich & Benbasat, 2000).

The goal with our framework (see figure 2.6) is to tie the essential parts of enterprise system and business alignment together to create an overview of the area. The framework is developed from the external consultant's perspective. We divided the framework into three parts: *antecedents, processes* and *result.*

*Antecedents* explain the characteristics of an external consultant who participates in the implementation of the enterprise system. These qualities help to achieve the knowledge transfer, effective communication and project management, which can be viewed in the middle part of the model.

*Processes*: these processes are elements of an enterprise system implementation where an external consultant participates and which influence the alignment between the enterprise system and the business.

*Result,* the result is the outcome and impact of an external consultant participation in the implementation of an enterprise system.

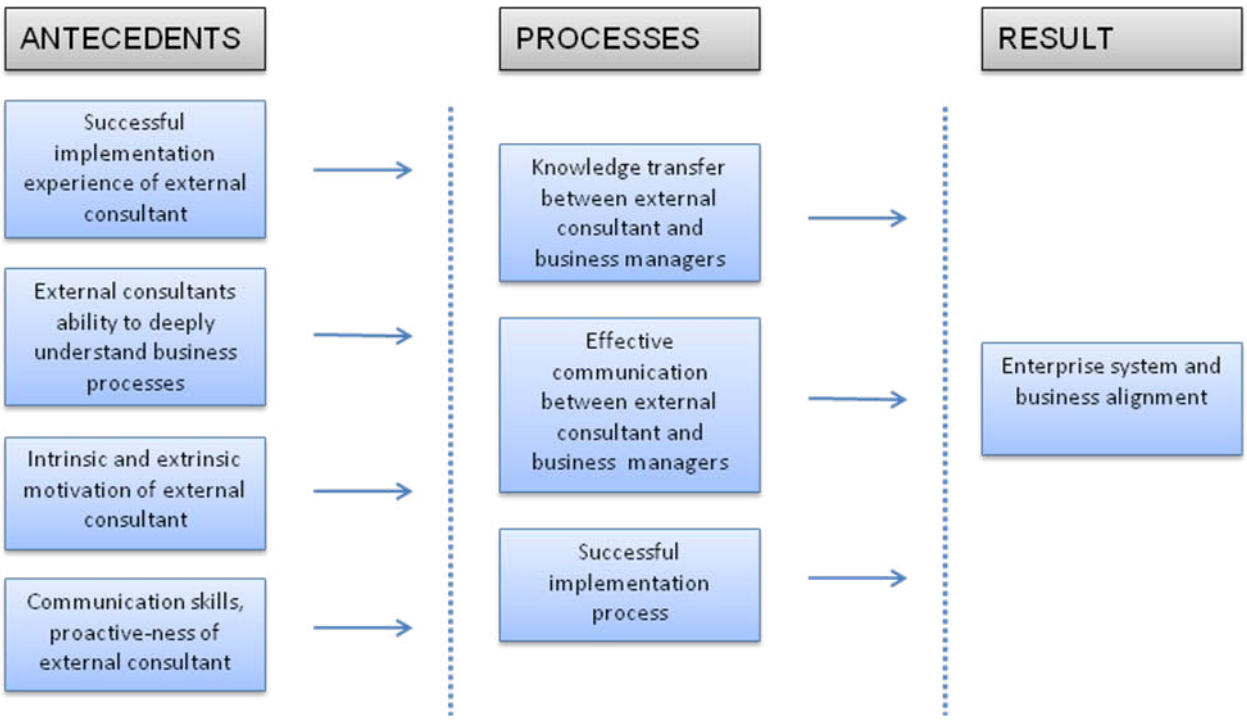



**Figure 2.6** – Framework of enterprise a system and business alignment from an external consultant's perspective (created by authors).

The motivation for elements of our framework is presented in the table 2.3, which is a summary of the literature review. Table 2.3 has three columns: first column represents what

part of the framework, second column shows category of framework and third indicates the relevant literature reference.

**Table 2.3** Literature summary and motivation of framework

| Literature summary and motivation of framework | | |
|---|---|---|
| **Part of framework** | **Category** | **Literature reference** |
| **ANTECEDENTS** | Successful implementation experience of external consultant | Wang & Chen (2005) claims that ERP consultants must have successful system deployment experience. |
| | External consultants ability to deeply understand business processes | Reich & Benbasat (2000) argues that the ability to get deeply into business processes is important for an IT consultant. |
| | Intrinsic and extrinsic motivation of external consultant | Ko, et al., (2005) argues about intrinsic & extrinsic motivation for conducting an implementation project. |
| | Communication skills, proactive-ness of external consultant | Djavanshir & Agresti (2007) argues that communication skills are critical in IT consultancy process. |
| | Knowledge of methodology | Structure, experience, documentation. (Gable, 2005; Wang & Chen, 2005) mentions the use of methodologies and the way to structure the work) |
| | | |
| **PROCESSES** | Knowledge transfer between external consultant and business managers | Ko, et al., (2005) argues that knowledge transfer is needed for the client to gain a performance boost from the enterprise system. |
| | Knowledge transfer between external consultant and business managers | Davenport (1998) argues that alignment is important for the overall usage of the enterprise system in consideration with the business. |
| | Effective communication between external consultants and business managers | Djavanshir & Agresti (2007) argues that effective communication is based on mutual ability to listen and understand each other. |
| | Effective communication between external consultants and business managers | Luftman (2003) claims that effective communication influences alignment. |
| | Successful implementation process | Reich & Benbasat (2000) argue that successful history of implementations in organizations increases the expected benefit from IT utilization. |

**Table 2.3** continuation

| Literature summary and motivation of framework | | |
|---|---|---|
| **Part of framework** | **Category** | **Literature reference** |
| | Alignment between enterprise system and business | Davenport (1998); Ko, et al., (2005) argue that aligning business and enterprise system is necessary to gain performance on the investment.<br><br>Davenport (1998) argues that alignment in business and enterprise systems are hard to achieve since business often have to change to adopt to the system. |
| | Alignment between enterprise system and business | Long-term alignment, Hitt et al. (2002) argues that the performance rate of a company increase while implementing an enterprise system. This performance boost mostly happens in a longer-time span. |
| **RESULT** | Factors of achieving alignment | IT and business alignment is achieved by good working relationships, leadership, effective communication, thorough understanding of business and of technical environment (Luftman, 2003).<br><br>Gable (2005); Ko, et al., (2005) argues that external consultant has an impact on the process of business alignment. |
| | Implementation methodology impact on alignment | Gable (2005); Ko, et al., (2005), argues that methodologies are used to extract and to transfer knowledge from the consultant to the client. |
| | The role of external consultant for enterprise system and business alignment | Gable (2005); Ko, et al., (2005) argues that external consultant has an impact on the process of business alignment. |

Here follows an explanation and a connection with the literature review of the different elements of the framework.

The first part of the framework consists of the following in antecedents:

- Successful implementation experience of external consultant;
- External consultant's ability to deeply understand business processes;
- Intrinsic and extrinsic motivation of external consultant;
- Communication skills, proactive-ness of external consultant.

Based on our literature review we have identified these as important skills of an external consultant when aligning enterprise system with business. We argue that possessing such

skills will lead to an effective implementation process. According to our literature review the crucial elements of implementation processes are:

- Knowledge transfer between external consultant and business managers;
- Effective communication between external consultant and business managers;
- Successful implementation process.

These make the middle part of the framework. We argue that antecedents influence the implementation processes. Because we don't know which processes are influenced by which element of antecedents in the framework there is no direct link between them. We just argue that the antecedents affect the implementation process but not the exact relation between them.

Finally after reviewing the literature of alignment we argue that the implementation processes that are based on the antecedents influence the enterprise system and business alignment. This is shown in the third part of the framework:

- Enterprise system and business alignment.

This framework shows that what elements that are needed from the external consultant to achieve enterprise system and business alignment. We will evaluate this framework in our empirical research. It's also used to guide us through the process of interviewing and gathering data.

Some part of the literature review is relevant for the study but not directly linked to our framework. Therefore this information is presented in a separate table see table 2.4.

**Table 2.4** Literature summary not part of framework

| **Literature summary not part of framework** | | |
|---|---|---|
| **Part of framework** | **Category** | **Literature reference** |
| **NOT A PART OF FRAMEWORK** | Key players in an enterprise system implementation | The three key players in enterprise system implementation are the client, the vendor and the implementation partner, (Gable, 2005). |
| | Key roles in an enterprise system implementation | External consultants can take different roles in an enterprise system implementation, for instance: project manager, application consultant, development consultant (Microsoft Dynamics 2006). |
| | The role of external consultant for enterprise system and business alignment | Gable (2005) mentions that in most of the companies lack the experience and the knowledge for themselves to implement an enterprise system. Therefore a common choice is to involve an external consultant. |

# 3. Method

*In this chapter, we present the choice of method that was selected to achieve the purpose and to answer the research question. The goal of this chapter is to give arguments about the credibility of this thesis and give thorough presentation of the research process. During our research we worked iteratively, constantly going back and forth and revising our literature based on empirical findings. Although the process of research was iterative, some major research phases: theoretical phase, empirical phase and analysis phase can be distinguished.*

## 3.1 Choice of method

The goal of this research was to gain more knowledge about the impact of external consultants in aligning enterprise systems with business. Oates (2006) suggests an explanatory view for such a study since its objective is to describe and explain events and their outcomes. This also seeks to identify multiple and often linked elements that affects the specific issue (Oates, 2006).

To get the required knowledge to answer our research question we have conducted qualitative interviews, so called elite interviews. The choice to conduct elite interviews was based on the fact that we wanted to get the opportunity to study this area in details and to gain this knowledge from practitioners with a lot of experience and expertise in this area (Kvale, 2009). Kvale (2009) argues that an elite interview is an interview with an expert or a leader in a community and are used to extract expert opinions and a deeper knowledge about the area. We have set up minimum criteria to extinguish who would fit our research and could be called elite experts in our research. These minimum requirements were: at least six years of experience in the IT business, worked or working with enterprise system implementation and they should currently work as external consultants in a consultancy company.

The decision to conduct interviews and not do a quantitative study allowed us to dig deeper and give a more detailed understanding of this issues (Kvale, 2009). There was limited research on this topic done before, so it was important for us to be able to ask addition question which could arise in the later stages of the research.

Our interviews were semi-structured which allowed us to further collect information with additional questions. This gave us a broader picture of how an external consultant affects the alignment of the business and what the connection of these two factors are. Kvale (2009) argues that the available information for the researchers creates a view and an interpretation

to the researchers. This interpretation is motive, processes, references and social guidelines. This is hard or even impossible to translate to numbers or numeric figures. The goal according to Kvale (2009) is for the researcher to find the unique or to create a deeper understanding of the area. The interviews should therefore be conducted with flexibility, this because then the researcher are open for new information and discoveries during the interview process. To adopt to the new information the researchers has to be prepared to change their questions to receive a more detailed answer.

### *3.1.1 Selection of interview persons*

Our selection of interview persons focuses on external consultants with experience on implementation of enterprise systems. Yin (1994) suggest that interviews persons should related directly on the research topic as well as be familiar in the area of the research. With the minimum criteria presented in section 3.1 we came in contact with a company that matched our criteria. The company is medium sized, by the name of UAB Baltic Amadeus and focuses on software and IT services. We came in contact with this company through personal contacts in Lithuania. From this company we selected persons that met our minimum criteria, this resulted in four interviews (see table 3.1). The interview persons all matched our minimum criteria to be called experts even though they have a little different background and tasks in the company, this will be further elaborated in section 4.1 to 4.2.

**Table 3.1** A list of interviewees

| Date of interviews | Interviewee name | Interview type | Length | Interview location |
|---|---|---|---|---|
| 2009-04-01 | Danas Sindaravicius | Face to face | Approx 1 hour | Interviewee's office room |
| 2009-04-02 | Dalius Butrimas | Face to face | Approx 1,5 hour | Interviewee's office room |
| 2009-04-03 | Andrius Girjotas | Face to face | Approx 1 hour | Interviewee's office room |
| 2009-04-04 | Arturas Inta | Face to face | Approx 1,5 hour | A company meeting room |

## 3.2 Research process

Our overall research processes could be described as an iterative work process, by this we mean that during our work, we go back, renew, rewrite and update information (Yin, 1994). This is especially true after the interviews were conducted, to make sure our framework still was valid but also to continue develop our knowledge base before the analytic process of the interviews begun. Even though we used an iterative work process we still could distinguish different work phases, *theoretical phase*, *empirical phase* and *analytical phase* (Backman, 2008).

But these phases were not finished before the next phase begun. They rather worked iterative and we continued working on all phases till the final result. Backman (2008) also suggest that different phases in the work process shouldn't be looked at as separate phenomena but rather interact with each other. This since no data, information or fact are static, they are dynamic and are always transforming when new discoveries are made.

## 3.3 Theoretical phase

Before we started to conduct the interviews we structured up information about the field of research. This information was gathered with help of the tools, LOVISA (Lunds university library), ELIN (Lunds university article database) and Google Scholar. The keywords we used to search for valuable information was; enterprise system (ES), enterprise resource planning system (ERP), information system (IS), alignment, consultant, external consultant, synchronization, business alignment. In this thesis, the quotes and the references are presented according to the Harvard System of Referencing Guide.

We are also using some none academic references, for example Microsoft Dynamics (2006), this is primarily to describe how the practitioners uses methodologies in their work process. This was also stated by all our interview participants to be an important factor in the enterprise system implementation process. The usage of non academic references is primary to describe methodologies used by the practitioners and to further get an understanding of how they work.

This reviewed information was then used to create a deeper understanding in the researches done in the field today and to gather additional information about our area of interest. From this literature we created a framework (see figure 2.6). This framework is used to understand our research problem and to develop our questioner for our elite interviews.

This literature review created a foundation that was necessary for us achieve a deeper knowledge and understanding about our research field. By conducting searches for findings in the area of the external consultant in enterprise system implementations, the external consultants role in creating alignment and how to achieve enterprise system alignment we got an understanding of these fields. An elite interview requires the researchers to have a deeper knowledge about the field to achieve an understanding between the interviewee and the interviewer. The framework we developed also helped us to assured that the interviews and the questions of the interviews were related to our research question.

## 3.4 Empirical Phase

### *3.4.1 The interview guide*

To answer our research question we have divided the interview guide into these sections: background questions, questions about antecedents, questions about enterprise system and business alignment and questions about implementation processes. These sections are formulated based on our framework see figure 2.6. In table 3.1 we present the interview guide and each section is has a responding category headline. The interview guide has 26 questions and is divided into four columns: *Category, Question number*, *Interview question*, and *Purpose of the question.*

Kvale (2009) argues that it is important for the researchers to begin the interviews with some warm up questions before they slowly ends up in the research area. Therefore we start every interview with easy to answer background questions to break the ice between the interviewer and the participants.

The interview guide as stated in Table 3.1 would be difficult to use during the interview, because of the table structure and analytical categories, which were used later in data analysis. Therefore we simplified an interview guide to an interview instrument. This helped to conduct the interviews easier and gave a better structure during the interview process. The interview instrument also contains instructions regarding ethics of research (these are discussed in section 3.5). The interview instrument is presented in Appendix 1.

**Table 3.1** – An interview guide

| Interview guide | | | |
|---|---|---|---|
| **Category** | **No.** | **Interview question** | **Purpose of question** |
| Interviewee profile | 1 | How long have you worked in the IT business? | Background question |
| Interviewee profile | 2 | What is your current position or occupation? | Background question |
| Interviewee profile | 3 | What kind of experience do you have on implementing enterprise systems? | Background question |
| Interviewee profile | 4 | Could you give some examples of successful or unsuccessful implementations? | Background question |

**Table 3.1** continuation

| | | | |
|---|---|---|---|
| **Key players in an enterprise system implementation (Not a part of framework)** | | | |
| Key players in an enterprise system implementation | 5 | What key "players" exists while implementing an enterprise system? | Try to confirm which are the key players in an enterprise system implementation. |
| The role of external consultant for enterprise system and business alignment | 6 | What is the role of external consultant while implementing an enterprise system? Why is this so? | Distinct the tasks the participant thinks an external consultant are conducting. |
| **Part of framework: ANTECEDENTS** | | | |
| Knowledge of an external consultant | 7 | What knowledge does an external consultant need when implementing enterprise system? | Before asking about specific antecedents from the framework a general question about interviews opinion about the required knowledge was asked. |
| Knowledge of implementation methodology | 8 | What can you say about the knowledge of implementation methodology? | If using a methodology they have some kind of work structure while implementing a system. |
| Successful implementation experience of external consultant | 9 | What impact does successful previous experience have to external consultant? | To find out if the participants view of experience. |
| External consultants ability to deeply understand business processes | 10 | Why is it important for an external consultant to get a deep understanding of business processes? | To find out if the participants thinks the ability to get deep into business processes are important. |
| Intrinsic and extrinsic motivation of external consultant | 11 | What is the motivation of an external consultant while implementing an enterprise system? Are there differences between short term and long term motivation? What can you say about intrinsic and extrinsic motivation? | To find out what kind of motivation are the important for the participants. |
| Communication skills, proactive-ness of external consultant | 12 | What is your opinion about communication skills of external consultant? What do you think about the proactive-ness? | To get an understanding of what the external consultant think is important in the field of communication. |
| Summary of antecedents | 13 | What result do all the above mentioned factors (successful previous experience, ability to deeply understand business processes, motivation, communication skills) give? | To further clarify and summarize what the consultants think of these factors. |
| **Part of framework: RESULT** | | | |
| Alignment between enterprise system and business | 14 | What do you think about the business and IT alignment in general? | To get an overview of the consultants purpose and also to gain some insight of how they think about the alignment issue. |

**Table 3.1** continuation

| | | | |
|---|---|---|---|
| Alignment between enterprise system and business | 15 | Is there a difference between short-term and long term enterprise system and business alignment? | For a company it's important that the system has a long life cycle and that it could be used over a long time span. Does the consultant think this is as important as the companies? |
| Factors of achieving alignment | 16 | How can alignment be achieved? | To find out how the participants think alignment can be achieved. |
| Implementation methodology impact on alignment | 17 | What impact does the implementation methodology have to enterprise system and business alignment? | If they have any strategies they most likely consider this issue before. And that the consultants think that knowledge management is important to support the client. |
| The role of external consultant for enterprise system and business alignment | 18 | What is the impact of external consultant in the process of alignment | Gives us the impact of external and how they affect alignment from an their own view, the external consultants view. |
| **Part of framework: PROCESSES** | | | |
| Knowledge transfer between external consultant and business managers | 19 | How do you understand the knowledge transfer in enterprise system implementations? | Is there a knowledge gap according to the consultant when implementing an enterprise system |
| Knowledge transfer between external consultant and business managers | 20 | How does the knowledge transfer affect the alignment between the business and the enterprise system? | To answer how the knowledge transfer affects the enterprise system implementation and alignment of the business. |
| Effective communication between external consultants and business managers | 21 | How do you understand the effective communication in enterprise system implementations? | To understand how the consultant interpret this. |
| Effective communication between external consultants and business managers | 22 | How does the effective communication affect the alignment between the business and the enterprise system? | To understand what impact communication does for business alignment. |
| Successful implementation process | 23 | How do you understand the successful implementation project in enterprise system implementations? | What's a successful implementation from an external consultants view? |
| Successful implementation process | 24 | How does the successful project implementation affect the alignment between the business and the enterprise system? | What is the external consultants view on how the implementation affects alignment? |
| **Concluding question about enterprise system and business alignment** | | | |
| Enterprise system and business alignment | 25 | Is IT and business alignment an issue in enterprise systems? Describe why… | To get a confirmation that this is an issue that the consultants have in mind while implementing an enterprise system. |
| Enterprise system and business alignment | 26 | What is the impact of external consultant in the process of alignment? | Gives us the impact of external from the external consultants view. |

### *3.4.2 Preparations of the interviews*

Before the interviews took place some arrangements had been made. To make sure that the participants had time to conduct the interviews we beforehand told them that the interviews would be around one hour long. This to arrange the meeting with interviewees so the participants would know and could plan to be available for this time. This is also good so the participant don't feel stressed during the interviews. Information about the study's purpose and goal was also mediated before conducting the actually interviews. It's important to ask for the participants informed consent so the participant themselves know what the information they mediate is used for and what benefits, risk this may bring. We also asked if we could publish the participants names and backgrounds in the research to further strengthen our validity, this was agreed upon all participants. The participants also agreed to record the interview, which is important for the researchers to prepare the interview result for analysis (Kvale, 2009).

The consent to conduct interviews and publish the company UAB Baltic Amadeus name was agreed upon by the company.

### *3.4.3 The interview process*

The interviews were conducted face to face on the location of UAB Baltic Amadeus, in interviewees office rooms and in the company's meeting room. The interviews were recorded with an audio recorder, this allowed us to transcribe the interviews and on a later stage examine and analyse their context (Bryman, 2008). The transcripts are presented in Appendix 2.

Kvale (2009) mentions confidentiality and anonymous as a problem in social research. It's sometimes hard to promise anonymous since even the smallest details could reveal the participants. He also argues that one way to solve this issue is if the research involves participants that don't want to be anonymous. By using the participant's names in our study they have to take responsibility for their statements and this further brings more validity to the research. We think this is important especially since we are conducting elite interviews where the experience and expertise of the participant is important to know.

## 3.5 Ethics

When conducting a research it's very important for the researchers to follow certain ethical guidelines. These guidelines are informed consent and confidentiality (Kvale, 2009).

### *3.5.1 Informed consent*

The purpose of informed consent is for the researcher to inform the participants of the study's purpose, goal and what possible benefits, risks and consequences the study brings. The risks, benefits and consequences have to be viewed from both an individual level and for the group the participant is a spokesperson for (Kvale, 2009). This also states that the study is voluntary and the participant anytime during the research could agree to withdraw (Kvale, 2009; Bryman, 2008).

### *3.5.2 Confidentiality*

Confidentiality is used in order to protect the participant's privacy. To do this the researcher usually changes the names to fiction and alters any kind of information that could reveal the identity of the participants. It's the participants right to be anonymous. Confidentiality also includes asking if the participants agree on revealing information about their name and other private information. And if the researcher publishes this kind of information the participant has to agree upon it (Kvale, 2009). This was agreed upon by the company UAB Baltic Amadeus and the four participants.

## 3.6 Analytical phase

We have started the analytical phase of research by transcribing interviews from audio recorder. Because interviews have been made in Lithuanian language, they have been translated to English. The translation was made by one of the thesis authors, whose native language is Lithuanian and a second language is English. The translation of material allowed both authors of the thesis to participate in the analysis of the empirical material.

To get an overview of empirical data and to make the data easier to understand, summaries of all interviews have been done (an example of a summary is presented in Appendix 3). Summaries showed the main empirical findings. After reviewing the summaries, we have made a preliminary table of our findings, which was the first draft of table 4.1.

After this we started a detailed analysis of the interview data. During our data analysis we followed recommendations for qualitative data analysis by Oates (2006). Firstly all the interview transcripts were printed on similar sheets, so they could be put side by side and analyzed together. Then we began read them to get a general impression. After that we marked the segments of text into three categories: the ones that are relevant for the research questions, the ones that could be relevant and the ones that were not relevant.

After this we began to categorize our empirical data. We chose a method to categorize data by questions raised from our framework and interview guide. It means that data from all respondents were gathered together to make an overview of a specific question, for example, the alignment of enterprise system and business alignment. Each of these questions was presented in a separate section in the empirical analysis chapter (see sections 4.3-4.6). The headline of the section has a link to a question in our questionnaire. For this reason the number of the question is shown in brackets next to the headline. This type of analysis is called a deductive approach by Oates (2006). Firstly the categorization was on a bigger scale, then we revised and looked if there are similar patterns and some summarizing was done. We made full overview of empirical gatherings and if there was a relevant quote, it was presented as well.

It is recommended in methodological literature that empirical data and analysis of the data is presented in two separate chapters of the thesis (Backman, 2008; Bryman, 2008). In our thesis we combined these two chapters into one (see chapter 4). It means that we not only presented the data, but also compared the empirical findings with the literature review in the same chapter. We have the following arguments for combining the empirical presentation with the analysis. Firstly, we argue that such way of analysis enhances the understanding for the reader. Secondly, this helped us to emphasize the importance of empirical findings in context of literature. Finally, this allowed us to avoid repeating of the same information is several parts of thesis, which makes it easier to understand for the reader.

We must emphasize that even though the presentation of empirical data and data analysis were combined, they were not done at the same time. Firstly, the presentation of empirical data was finished and table 4.1 was updated. During the next stage of analysis, we reviewed the findings once again and compared the empirical findings with the literature review. Based on this analysis, we added relevant literature review findings to the relevant parts of empirical findings (see sections 4.3-4.6).

The data analysis resulted in the final revision of table of summary of findings, which can be found in table 4.1. Oates (2006) argues that tables and graphs are helpful visual aids to analyze the data. In the table we marked the confirmations of literature that we have received from interviewees and also wrote down the surprises that we have found from our study. Fur further explanation of the table 4.1 see section 4.7.

In the discussion part we analyzed the findings, compared our finding against the literature and from these results we presented some possible changes of our framework. In the conclusion we answered the investigation questions and the research question.

Our thesis workflow was an iterative process. As mentioned above we revised the table of findings repeatingly. Based on empirical findings, we got back and forth to our research questions, revised our literature review and the framework.

## 3.7 Critics and trustworthiness of this research

### *3.7.1 Reliability*

Reliability is a concept that refers to the consistency of measuring a concept. If the study can be repeated it is determined to have high reliability (Bryman, 2008; Yin, 1994). We believe that our study is possible to replicate, but if its conducted at another time and place, our study would possible generate different results. We will therefore try to provide this study's unique context, try to describe this context and explain our research method clearly.

### *3.7.2 Validity*

Validity refers to if the research findings are accurate and represent the real situations. And also if the information gathered really measures and reflects the situations they were extracted from (Bryman, 2008; Yin, 1994). Kvale (2009) argues that poor measurements, the researches experience, the research methods all could weaken the validity of the research. Our goal of the research was not to measure the knowledge in a statistical sense but instead to gain a deeper knowledge and access to the participants understanding of the research questions.

Validity in our research may have been limited by the following:

- The interviews were conducted in Lithuanian this may have caused some languages barriers or inconsistencies when translating the information to English.
- The interview guide structured from the framework and the literature study could limit the range of the research.
- Due to the semi-structure interview format some bias and the interviewers own interpretation and experience could affect the interview process.

Validity in the research is strengthened by the following:

- Interviews were only conducted with documented competence that followed our minimum requirement form.
- Interviews were conducted in a familiar environment for the participants.
- Interviews were structured to be understandable for the participants.
- Informed consent, background and purpose of the research was asked and agreed upon by all the participants.
- Publishing the company's name and website was agreed by the company.
- Every participant has reviewed the transcripts and approved of our empirical material.
- Every participant agreed to use their name and background information in this thesis.

### *3.7.3 Generalizability*

Generalizability refers to if a research finding in one situation could be transferred to other situations. For example if one can draw conclusions from one case and apply it to another. Even if an interview could be judged as reliable and valid the question still remains if it is possible to transfer the knowledge from this subject or situation. Regardless of the method and sampling size an analytical generalization can be made from the interview. Analytical generalization focuses on a rich contextual description that includes the researcher's arguments and to transfer the findings to other situations and circumstances. Therefore it is important how the interviews are presented in the research (Kvale, 2009).

# 4. Empirical analysis

*We start this chapter by introducing the company and interviewees profiles. After this the empirical data is presented together with the analysis of the data. It is presented in an order corresponding to our framework and interview guide. Each section of the chapter has a link to a question in our questionnaire. For this reason the number of the question is shown in brackets next to the headline. The empirical findings also contain analysis of the questions together with previously reviewed literature. More detailed description of data analysis procedure is presented in methodology section 3.6. A summarized table of findings is presented in the end of the chapter (see table 4.1).*

## 4.1 Company presentation

Interviews were conducted in Lithuanian IT company UAB Baltic Amadeus (www.baltic-amadeus.lt) which currently has 120 employees. UAB Baltic Amadeus was founded in 1989 and is the first IT company in the country. It started its' business as hardware and software wholesaler and retailer partnering with HP, IBM, Microsoft, Adobe and other world-known vendors.

From 2000 the strategy was developed to transform to software and services provider as the competition in hardware sector increased. From then in a contract of outsourcing a company develops and supports the whole electronic banking system of SEB bank in Lithuania, with approximately 50 developers and managers employed on particular project.

In 2002 the department of business solutions was created. It specialized in implementing Microsoft ERP solution Microsoft Navision Axapta (now renamed to Microsoft Dynamics AX). Implementation has been done internally first to develop a competence and then the sales to external customers began. Later UAB Baltic Amadeus began to redistribute and implement a business analysis tool Cognos BI, being the only distributor in Lithuania. Also a group of people developed an in-house document management system, which first was launched and began to implement to customers in 2004, and second version of this system was released in 2009.

By the year 2009 the department of business solutions has grown to 30 persons, with experience of more than 10 successful ERP and BI implementations and many on-going projects. In 2008 the company was nominated a top 3 of Microsoft ERP solutions implementers in Lithuania.

We conducted four interviews with consultants working in the business solutions department of UAB Baltic Amadeus. All consultants have at least six years of experience. Further down we will present a short summary of all the interview participants and their background information, so the reader can get an overview of their experience and expertise. This will also empathize that they are valid for this research. We called our interviewees A, B, C and D.

## 4.2 Interviewee profiles

**Interviewee A**

Interviewee A is Danas Sindaravicius (39). He has six years of experience working in the IT field. His prior experience was a sales person in another Microsoft Navision implementer. After three years of career in sales, Interviewee A was nominated to be the head of company's newly created subsidiary in Latvia. His responsibilities grew from Navision sales, to business strategy formulation and supervision of ERP implementation projects in Latvia. After two years, he joined UAB Baltic Amadeus in 2009 and is responsible for sales of Microsoft Dynamics AX and Cognos BI.

**Interviewee B**

Interviewee B is Dalius Butrimas (34). Interviewee B has 10 years experience in the IT business & Enterprise systems. He started his career as IT manager in an agricultural company where he was responsible for implementation of ERP system. After the implementation he moved to a company implementing Microsoft Navision and started his career as implementer. During 5 years as Microsoft Navision consultant, he participated in more than 10 ERP implementation projects. In 2004 he joined UAB Baltic Amadeus as a manager of business solutions department. Since then he expanded the business solutions department, formed a competent team of specialists, participated as a supervisor or project manager in most ERP and BI implementation projects within the company.

**Interviewee C**

Interviewee C is Andrius Girjotas (28). Interviewee C has 7 years experience in IT. He started his career as project manager in a bank IT department. He was responsible for coordinating internal IT projects and managing project groups. In 2006 he joined UAB Baltic Amadeus and continues his career as project manager. His projects are mostly based with

internally built document management system implementations and also managing the projects of some specialized business tools with .net technologies.

**Interviewee D**

Interviewee D is Arturas Inta (33). Interviewee D has 6 years experience in the IT field. He started his career as IT person in a small company. Then he went from IT to business for few years and worked as sales person in other field. In 2003 he joined UAB Baltic Amadeus as a sales person of Microsoft Dynamics AX and Cognos BI. After few years later he changed position to a product manager. Now he is responsible for projects supervision and development of the ERP and BI product competence in the company.

## 4.3 Key players of enterprise system implementation

**Key players of enterprise system implementation (Question 5)**

When asked about the key players of an enterprise system implementation, Interviewee B mentioned that there are two parties – the customer and the implementer, because the project is run by two sides.

Interviewee A mentioned players from customer side: CEO, director of finance, IT manager and some cases manufacturing manager. On broader perspective Interviewee A mentioned shareholders, management and the board. Interviewee B said that from customer side there must be project manager and an analyst. It was mentioned by both Interviewees A and B that customer representatives must be persons, who can make decisions, or as mentioned by Interviewee D responsible for the system implementation.

Avison & Fitzgerald (2006) refers the persons mentioned from Interviewee A and B as stakeholders of an enterprise system. These are important people involved in or affected by the development, implementation, impact or use of the information system. Davenport (1998) also mention external players as stakeholders of the system, these could be investors or sub-contractors.

Interviewee B mentioned project manager, analyst and programmer as the most important players from the implementer side. Interviewee D distinguished analysts to more business oriented and more technically oriented people. Interviewee C gave a more detailed description that business analyst analyzes the business processes and prepares an analysis document. While a technical analyst configures the system and does the additional

programming. It was both mentioned by Interviewees B and C that sometimes a tester participates and tests if the system fits the business requirements.

As described by the Interviewees, the client often gets access to a broad set of experience and knowledge when hiring a consultant firm. Interviewee B and C identified the business analyst as one of the more important consultant roles. They also mentioned the project manager, programmer and technical analyst. Microsoft Dynamics (2006) in their recommended methodology for system implementation identifies five roles for the implementation process: *project manager, engagement manager, application consultant, development consultant* and *technical consultant.* Interviewees' C description of a business analyst is a similar description as the application consultant mention by Microsoft Dynamics (2006). Totally interviewee B and C covered four of the five above mentioned roles. This indicates that the interviewees got a similar view and opinion about the roles.

**The role of external consultant while implementing an enterprise system (Question 6)**

All four respondents confirmed the importance of an external consultant, but some of them equaled the external consultant to a business analyst. For example Interviewee C said that "it wouldn't be possible to achieve this thing without a business analyst". Interviewee D also thought about an analyst as a key person, who participates from the creation of concept till specification of code which a programmer has to "hammer". Interviewee D added that "Analyst in principle is a connection between technical world and business problems." Interviewee B said, that the role of an external consultant depends on how it positions itself and how it sees itself. If an implementer sees himself as technical consultant than, they won't give much advice on business. "But if we talk about the person who needs to understand business, than we have to raise one step up" (Interviewee B). Interviewee D supported this saying that requirements for an external consultant are high:

*"For one person to understand the features of all business processes and technical possibilities is quite difficult. We see from our own experience, that to train a person, who could do both that and that, it must be either a person with extreme capabilities or he needs to work at least 5 years for him to become a really solid specialist"* (Interviewee D) .

From this data we can see that the definition of an external consultant was not so obvious and familiar, for this reason respondents used their understanding of this concept and their natural terminology: analyst, business analyst, consultant, specialist rather than an external consultant. The academics also mention the external consultant under different definitions.

While Ko, et al., (2000) simply mention them as consultants, Gable (2005) mentions them as implementation partners which includes project manager, decision-makers, arbitrators and knowledge facilitators.

## 4.4 Part of framework: Antecedents

**Knowledge of an external consultant (Question 7)**

Speaking about knowledge or competence of an external consultant there were four blocks of knowledge, which were named most often. These are a business background, a general understanding of business, technical knowledge and communicational skills. These four blocks of knowledge are all supported by the literature. Reich & Benbasat (2000) emphasize the importance of understanding the business as well as a understanding and managing the business process. Wang & Chen (2005) argues that consultants must have a high system knowledge as well as the needs to understand the details of customer business practices and the ability to fill the client's needs. Communication skills are highlighted by Djavanshir & Agresti (2007) as well as Ko, et al., (2005) as being one critical factor for a successful enterprise system implementation.

According to Interviewee A, the business background consists of "macro-economical knowledge, knowledge about what happens today, having alternatives, for example how neighbor companies are doing". While Interviewee D was more specific. He distinguished between finance and business processes knowledge. Finance is the cash flow, the accounting, the tax policy and finance management. So a person should be as a financial consultant. A process consultant must know all the processes such as human resource management, logistics, accounts payable and accounts receivable, project management and so on. Interviewee D thinks that this is even more difficult than to be finance consultant:

"*So he (the process consultant) must know the logic of processes, that is how, from what kind of stones or chain-pieces the whole chain of company consists. He should know, from what the company earns money, which are key actions, how these can be improved, how to put them so they would work in harmony together and there wouldn't be any hazards, so the process would be manageable*" (Interviewee D).

Interviewee B emphasized a need of more general understanding of business. According to him, an external consultant should have a good knowledge of principles of business, understanding of business, of business strategy. Also, he must understand trivial things like mission, vision and values. Interviewee B said that these things allow consultant to get deeper into business:

*"With this knowledge the consultant can get deeper – to ratios, measurements, which processes must be measured, which ratios should be observed, how does the planning goes, how the bottle necks are identified, also giving proposals about how to change some things." (Interviewee B).*

Reich & Benbasat (2000) argues that business knowledge allows the IT professionals to build up a relationship with the customers. It also serves as a language to understand and communicate between each other.

Interviewee A added that "he (*an external consultant)* must feel the pain in the company".

Another area of knowledge was technical knowledge. Interviewee B sees, that an external consultant should have a good basic system knowledge, so "he would know what an ERP system is, what is a SCM (*supply chain management)* system, which task they solve, which nuances they have". Interviewee A mentioned at least minimal technical knowledge, while C emphasized technical knowledge. These findings could be biased due to that Interviewee A is more involved in sales processes, while C is more involved in technical work.

**Knowledge of implementation methodology (Question 8)**

All the respondents, except Interviewee C acknowledged the importance for an external consultant to have knowledge of the implementation methodology. Some specific methodologies were mentioned, such as "Diamond" or "Navision On-Target" by Interviewee A. But it was also said that there is no universal implementation methodology for IT projects, there are some specific features which have something in common (Interviewee D).

Wang & Chen (2005) argues that experienced consultants should be well trained in enterprise system implementation methodology and have real system deployment experience. We also discovered during our literature review that most of the methodologies follow the same process structure. Firstly, some business analysis is conducted, then a solution is specified and designed and lastly he solution is deployed.

Speaking about benefits of implementation methodology it was said by Interviewee A that it systemizes activities, allows to collect and systemize information and "not to do a bunch of data which is very difficult to read later". Interviewee D added the necessity for an external consultant to know inputs and outputs, the deliverables, to know what is expected from them and from the next member of implementation. Interviewee B thinks, that methodology knowledge is one more block of knowledge of external consultant and it is not inseparable

part from the knowledge of system itself. It was also mentioned that it is not necessary for external consultant to know the whole methodology, only partial knowledge is enough, because it is a responsibility of project manager to track the whole project.

Marcus & Tanis (2000) define methodology as a set of tools, techniques and templates that are used by practitioners when implementing an enterprise system. This definition is similar to interviewee A definition that its used to systemizes activities, and allows to collect and systemize information.

Interviewee A also thought that in his opinion implementation methodologies should be revised more often, because the customers develop too.

While interview C said that methodology was not used in implementing their in-house created product: "And we used a standardized implementation process. It states in what turn separate elements should be implemented. This is written down and implementation is done according to this. But we do not use any specific methodology" (Interviewee C). The reason for this could be that because the product is created by company, it doesn't call it the term "methodology". From Interviewee's C description we can see that what is meant by implementation process and this could be called a methodology too. It was also mentioned that it is written, which is also a means that some form of codified knowledge is used.

**Successful implementation experience of external consultant (Question 9)**

The respondents didn't distinguish difference between positive and negative previous implementation experience, and looked at the experience question more generally. This appeared to be a challenge to Wang & Chen (2005) claim, that only successful previous experience is important factor to achieve business and IT alignment. Interviewee D said that:

*"Every time you implement a system, it is some kind of experience. It could be positive or negative". (Interviewee D).*

This was confirmed by Interviewee B, saying that both successful and unsuccessful experience have impact to external consultant.

*"In principle, the experience has only positive impact to each consultant" (Interviewee B).*

Interviewee D acknowledged that a person who has experience knows how things shouldn't be done or how things should be done to make it better. Interviewee D mentioned the importance of learning from experience: "If a person can learn from mistakes, everything is good. If not, there can be some kind of destructivity". Interviewee B repeated this and also

said that experience helps to compare how a university graduate differs from a person with 10 years experience. The only difference is actually that the one with 10 years experience knows what he can't do, and knows how to do things right.

These findings confirm the argument by Wang & Chen (2005), that external consultants must be experienced in implementation.

Interviewee A had slightly different opinion stating that successful previous experience influences the self trust. On the other hand the unsuccessful experience makes a consultant more vulnerable in conversation with customer:

*"The customer will say that you do something incorrect, you say something incorrect and this hits the self-trust of consultant, because he can't be 100 percent sure, that you do it right." (Interviewee A).*

The latter finding could be explained by the fact, that interviewee A is more involved in sales activities (which require a lot of self trust and confidence) rather than implementation activities.

**Personal characteristics of an external consultant (Questions 10-13)**

Communicational skills were mentioned most, but as there is separate question about them in the questionnaire these will be analyzed in further section.

According to Interviewee B, an external consultant should have such skills as concreteness, orientation to purpose, ability to select the most important things. Interviewee A added that a consultant must encompass solidity, maturity, the awareness of business etiquette. Interviewee A also said that such person needs charisma and should be proactive. So he wouldn't "need a pull-drag principle". Issues of etiquette and proactive-ness about external consultant were mentioned in literature by Djavanshir & Agresti (2007).

It was confirmed both by Interviewees B and D, that an analytical thinking is needed, ability to get deep into details. Importance of strong analytical skills and critical thinking skills is discussed by Bassellier & Benbasat (2004). Interviewee D said that analytical skills are necessary to be able to work with methodology and documentation, which is an important part of implementation:

*"Especially rigorousness to follow the methodology, fill the documentation, to write down everything, so there was an overview and understand their importance."(Interviewee D).*

Interviewee B emphasized the necessity of analytical skills and other skills to be in balance:

*"This should correlate together. We have examples where an analyst because of his perfectional principles is willing to improve, improve and once more improve something. But there should be orientation to the goal." (Interviewee B).*

In addition to that, Interviewee A thinks that the person, who is an external consultant, should love his work a lot and must have a pleasure from it.

Even there is no discussion about passion to work in the alignment literature we can draw an assumption that passion refers to more general issue of motivation. We will discuss motivation in a further bellow.

**External consultant's ability to deeply understand business processes (Question 10)**

The ability of an external consultant to get deeply into business processes was accepted quite obviously by all interviewees, stating that it is necessary, obligatory. Some of them mentioned good consequences due to this capability, while others explained the flaws if there is no deep understanding of business processes. So the ability for an external consultant to get deeply into business processes emphasized in literature (Reich & Benbasat, 2000; Wang & Chen, 2005; Chan, et al., 2006) was confirmed by interviewees.

Interviewee B said that when a person understands necessity to get deep into business processes, he can put himself in a customer's place and evaluate the reality of his own solutions:

*"For example, as a consultant I could say that you will push some buttons and have a result, but if you need to push million buttons to have the result, so is not a proper solution." (Interviewee B).*

Interviewee A mentioned ability to select an appropriate offer and this in turn would be more appropriate to customer. This was confirmed by Interviewee D, stating that ERP solutions require deep understanding of business:

*"When a customer needs one kilo (kg) of ERP "…" there is no problem about that. But when a consultant sells a business solution, say customer buys for one million a better logistical solution for his business, say an item distribution, he pays for his items to move faster. So if a consultant doesn't go deeply, he won't solve this problem" (Interviewee D).*

Interviewee C added, that without business understanding it wouldn't be possible to describe the system requirements in a system specification. The more clearly requirements are specified, there is a lower risk of project failure.

From the negative perspective it was confirmed by Interviewee A, C and D that with absence of getting deep in business processes an implementation project would fail. Problems like badly formulated requirements, falsely conducted programming and necessity to redo the work were mentioned. This leads to bad consequences to the project budget, work planning and the image of a company (Interviewee C). The importance of project management, project specification in ERP implementation projects are discussed in literature (Davenport, 1998; Chen, 2009).

Interviewee B has a different perspective, he thinks that there is a risk to get too similar (assimilate) to a customer:

*"The more you communicate with customer, the more you see that he transfers you his opinion and little by little he puts you to the same position as he stands. And then it is difficult to see the overall view and say "wait, why are you doing this, this is not necessary"" (Interviewee B).*

Assimilation with customer could be considered a possible finding, because the literature doesn't mention such issues. Instead the literature emphasizes the pro-activness of a consultant and argues that he (the consultant) through communication and abilities to listen should be able to avoid pitfalls, disappointments and frustrations (Djavanshir & Agresti, 2007).

Interviewee B continued that it is important to get deep into business processes, so the consultant's recommendations wouldn't be only theoretical or taken as a rule of thumb, but applied and appropriate for the particular real life situation.

**Intrinsic and extrinsic motivation of external consultant (Question 11)**

It was confirmed by respondents that there exists both intrinsic and extrinsic motivation for an external consultant who implements an ERP system. This confirms the argument by Ko, et al., (2005) who found that both intrinsic and extrinsic motivation of an external consultant are important factors to achieve successful knowledge transfer in an enterprise system implementations. But it was not confirmed that there exists a difference between short and long term motivation.

The most mentioned intrinsic motivation was, being self-born with motivation to do the job, to do the job well (Interviewee A). Interviewee B and D said that internal motivation it is a person's wish to develop, the wish to know more, the internal stubbornness, a sense of duty. Interviewee D added that a person feels the pleasure, when he provides help. And also according to Interviewee D the motivation of an external consultant is to find a solution, the

problems could be described as difficult puzzle of some not related facts and then the analytical skills can help a consultant to solve them.

When spoken about extrinsic motivation Interviewee B first of all mentioned a customer satisfaction and getting feedback:

*"…to do the result, so the customer would be happy, get a feedback, to see the satisfaction. To be proud of job that it was difficult and I did it."* (Interviewee B).

Interviewee A repeated this in other words. Interviewee D thinks that because an external consultant is first person to contact with customer, if he works successfully he will become number one for the customer and he "will build his name. This will be his trademark. The career opportunities will only get better."

Another factor of external motivation is wage and bonuses. As said by interviewee A, a motivation is to have a social guarantee.

Another issue raised in the interview guide was to explore whether there is difference between an external consultant's short term and long term motivation. The question was quite difficult to understand for respondents, and only Interviewee A tried to distinguish a difference. Interviewee B was more general and critical saying that a consultant should be long term oriented even though there are pressures to deliver result on short time:

*"I would say the implementation will be bad if a consultant won't look with the perspective of 3 to 5 years. If a consultant works just as it is today, I would rate such work as low quality)" (Interviewee B).*

Interviewee A called getting pleasurable feedback from customer and money bonuses a short term motivation, while professional development and project closing as long term motivations. In general, a possible conclusion is that it didn't appear to be a difference between short term and long term motivational issues of an external consultant.

**Communication skills, proactive-ness of external consultant and effective communication (Questions 12, 21-22)**

Communicational skills of external consultant were clearly confirmed by all respondents using the expressions like "very important", "extremely important", "obligatory", "a critical thing". Most of respondents mentioned communication skills as a part of external consultant's knowledge. Communicational skills of an external consultant are mentioned as

especially important in business and IT alignment literature (Reich & Benbasat, 2000; Wang & Chen, 2006; Djavanshir & Agresti, 2007).

According to Interviewee B an external consultant should have such competency to be able to listen, to be able to raise questions and through raising questions to collect the information. Interviewee B added the ability to create a good relationship atmosphere, build trust, so the customer representative would be brave enough to tell everything and don't filter any information. Interviewee A also mentions ability to provocate for open conversation. Interviewee C thinks that the communication should be directed and clear. Interviewee D uses a word "good orator" to describe communication skills of an external consultant.

It was also emphasized by Interviewees A, B and C the external consultant's ability to raise questions.

When speaking about communicational skills, Interviewee D calls an external consultant a pedagogue:

*"The consultant must act as a small pedagogue, a lector. From one side he must be a big theorist, but able to explain what he wants. "…"He must much more communicate with people, he must persuade them, offer some kind of solutions."(Interviewee D).*

Interviewee D also thinks that an external consultant has a strong starting position for communication:

*Lecturers and listeners positions for the start are very good. Usually these are given to him. So lately he only has not to spoil them." (Interviewee D).*

Interviewee B equals communication skills to skills of psychologist:

*"So the psychological aspect of communication is very important in this area, because if you won't be able to find a common language, to express your opinion, so all you knowledge will be null (worthless). There are persons who are born with some things, there are persons who learn" (Interviewee B).*

In general the importance of communication skills was much confirmed by interviewees. But things that an external consultant should be a pedagogue, a psychologist can be considered a possible finding.

Interviewee A mentioned written communication in addition to oral communication. His idea was that some consultants may be strong orally, but not that good in writing:

*"… when a person speaks and builds his thought orally looks that everything is well. But on writing he doesn't pay much attention to that, and this shows his inability to connect everything to total level of communication. Examples of what I say is a letter with poor content, or some poor phrasing, or not enough attention paid. Say instead of "good day", he writes "hi" or something". (Interviewee A).*

Most interviewees accepted an issue of proactive-ness, stating that consultant should be dominant in implementation process, managed and moved the right direction. Just interviewee B was more critical, saying that proactive-ness shouldn't transform into too much individual performance:

*"Proactive-ness is good, but if it shades down, you will be proactive, go to extreme and won't let customer speak only saying what he has to do, and don't pay attention how other people are feeling. And you try to carry the flag alone, in the end it can be seen that you go with your flag alone and everybody else are left somewhere far behind." (Interviewee B).*

Though partly confirmed, the findings challenge the claim by Djavanshir & Agresti (2007) that proactive-ness is very important feature of a consultant. Rather, it was found that there should be a balance in external consultants action. The consultant should still keep in mind that communication and be able to listen are important factors (Ko, et al., 2005).

In addition to communication skills, some respondents had comments about what an effective communication is. For interviewee D an effective communication is to understand of common goal.

According to interviewee C an effective communication must always be written down and formalized:

*"When a document with all the decisions and plans is prepared, so when everyone signs this document it means that everyone understands things written inside the document". (Interviewee C).*

Interviewee C added that another thing, which can raise the quality is a communication plan. The importance of communication plan and other project documentation is emphasized in project management body of knowledge (Project Management Institute, 2008).

## 4.5 Part of framework: Result

**Alignment between enterprise systems and business (Questions 14-15, 18, 25-26)**

Though all respondents interpreted the concept of alignment between enterprise system and business differently, many of them discussed that the enterprise system should comply with

business requirements. This is confirmation of definitions by Luftman (2005) and Huang & Hu (2007), they define alignment that the system should match companies goals and strategy. Other ideas that alignment occurs when the enterprise system is used, when system and business complement each other, when the system makes business processes more efficient. Such perspective of alignment similar to Henderson & Venkatraman (1999) view.
Interviewee B said that alignment appears, when system complements the business. He explained, that it is a situation when a business needs a system, and the system fulfills the business requirements. Interviewee D told that system must help the business to circle. It shouldn't be otherwise that the business is constructed around the system. His expression of alignment was:

*"We work not for system, but system works for us" (Interviewee D).* Almost the same was repeated by Interviewee C:

*"Either the system is adapted to business requirements or the business requirements are adapted to the system". (Interviewee C).*

According to Interviewee C, the system is aligned when system is used. If the system won't be aligned with business processes, then it will lay aside and be a work obstacle. Another comment from Interviewee C was that when business requirements are well formulated by analyst, the system is aligned and implemented correctly. Soffer, et al., (2003) argues that for a system to be aligned the system must be properly configured. According to Interview A, alignment is when system ensures some business processes, improves their efficiency by digesting the data faster and so on. Interviewee A was more general, saying that alignment occurs than system helps the business. It in any case shouldn't be just a panacea, a fashionable thing. Interviewee A also mentions a word "harmony" as a synonym of alignment. According to Interviewee D, alignment means that company receives the expected result, which will help it to kick off and grow further and help the business to circle faster. Luftman (2003) uses the term harmony as substitution for alignment.

Interviewee B mentioned some extreme situations of alignment:

*"We can't say that a system should fulfill all the needs, because the question is if all of it is needed. "… "So in this case the system implementation is good for business because it forces to rethink whether something is needed and what value it gives. So when they complement each other rather than limit, then there is an alignment. "(Interviewee B).*

From this quote we can interpret that according to Interviewee B there exists different levels of alignment. Interviewees A and C accepted that that the enterprise system and business could be aligned in different levels, and C gave a scale to measure the alignment:

*"Certainly, each system either fully, either partly fits the requirements or it doesn't fit the requirements" (Interviewee C).*

There was no direct statement that ERP and business alignment can be measured. But both Avison, et al., (2004) and Luftman (2003) provided tools to measure IT and business alignment. From our findings we could state that ERP and business alignment can also be measured. Possibly, the tools provided by mentioned authors could be modified to measure ERP and business alignment.

Interviewee A continued the same idea, stating that there is misalignment when there are too many modules implemented and they are not used:

*"A customer may implement a wide functionality, including CRM, but it will show that it doesn't use that CRM, because some salesman or sales managers say that this is not convenient for them. So it is better to use some specialized solutions, Outlook and so on." (Interviewee A)*

There were few comments about the differences of short- and long term alignment but overall we couldn't define any difference. Reich & Benbasat (2000) found a differences in short and long term alignment but in our study we didn't have enough data of it and further studies are needed. Interviewee A agreed with the difference, but his explanation was about taking sales opportunities, that is to say not so relevant in context of implementation. Interviewee B was more concrete. He thinks that alignment should be long term, and the system should be available for 5 to 10 years:

*"The system implementation I imagine as not a short-term project, but I think that this is devoted to the system life cycle. It is said that system should be changed each ten years. So I think, when you implement the system you should think about those ten years in advance." (Interviewee B).*

On the other hand, he admitted that ongoing changes are necessary after implementation to keep continuous development. He compared alignment to customer satisfaction and benefits:

*"I think that customer satisfaction comes already in short term perspective, when the customer himself received a tangible result. Again depending on professionalism, it is possible to show fast benefits."(Interviewee D).*

But interviewee D also argued that a problem with achieving short term alignment is affected by human factors such as fear of overworking and fear of change.

To summarize we can say, that our findings extended the definitions of alignment found in literature. From our empirical data the enterprise and business alignment encompasses three perspectives:

- The business side – meeting the goals of business and fitting the business strategy;
- The implementation side – formulating the system requirements well and doing proper system configuration;
- The customer side – fulfilling customer satisfaction.

**Factors of achieving alignment (Question 16)**

Two respondents (C and D) answered that it is the system itself and two (A and B) said that a consultant helps to achieve alignment between enterprise systems and business. This denies Hussin's, et al., (2002) claim that an external consultant is not important to achieve alignnent. We must also say, that Hussin's, et al., (2002) study was within the field of general IT and it was done in small companies. As our study involves enterprise system, we found that an external consultant plays important role in enterprise system implementations.

Interviewee C said that simplicity of the system is important. And the more simple the system is the more people will be willing to use it, the faster they understand it and assimilate it. He also mentioned user interface to help achieve better alignment.

Interviewee D was more concrete. According to him a better alignment is achieved when there is a successful implementation.

Interviewee B was sure that alignment depends on an external consultant and his professionalism:

*"It depends from him, how much he will manage to persuade the customer, so the system standard functionality is really good, useful and gives them value."(Interviewee B).*

Interviewee A agreed with the idea that an external consultant must be thoughtful and he needs to have an insight, be able to evaluate if the customer really needs it. He gave example of customer who wanted to have additional 100 accounting and financial reports, but in the end it showed up that only 17 of them were used. This example shows that sometimes

customer needs are exaggerated and they can only be evaluated by an experienced consultant.

Interviewee B confirmed that an external consultant dominates the process of alignment. He mentioned that usually in the beginning of the implementation the customer tries to give his opinion but as the meetings go there begins a change of roles and a consultant begins to dominate. The importance of consultant and his role in knowledge transfer in ERP projects was confirmed by Reich & Benbasat (2000). This leads to a trust between the customer and the consultant:

*"With every meeting, there comes a point when everything turns around and customer starts to ask questions not only about the system but about business too" (Interviewee B).*

A separate question was dedicated to check the role of an external consultant to achieve enterprise system and business alignment. Both interviewee C and D confirmed that using phrases like: "it is external consultant's responsibility", "he is critical", "he is key person". As none of above was found in previous research, we found that the role of an external consultant is very important in enterprise system and business alignment.

Interviewee D said that "the external consultant creates alignment". Interviewee C said important idea that alignment is a measure of quality: "The higher the quality, the bigger is consultant's impact". Interviewee A concluded that an external consultant is a connection between all other parts of enterprise system implementation process:

*"Those are customer, his business specifics, business area, the offered ERP product, the questions solved, professionalism, technologies. So if we drew a molecular structure, so in the middle we could put a consultant who connects both processes, both everything else." (Interviewee A).*

We can conclude that all four respondents confirmed the importance of an external consultant in achieving alignment between an enterprise system and business, but some of them did it as their first choice when speaking about factors influencing alignment, and some confirmed it when asked directly about the impact of consultant.

**Implementation methodology impact on alignment (Question 17)**

Interviewees B and D confirmed the importance of methodology, Interviewee D gave some doubts and Interviewee C had no comments, because he claimed not using a methodology.

Interviewee B said that methodology is a tool, a help, a direction and a map:

*"a map helps us to go from point A to point B, the same with methodology helps consultant to go ".. ."from the beginning of enterprise implementation to the end of enterprise system implementation" (Interviewee B).*

He also thinks that an external consultant couldn't even imagine his work without methodology, it should be embrained, "he takes it to unconscious competence level, when he uses methodology as a habit".

Interviewee D thinks that methodology cuts the implementation time, it lowers the risks that expectations will not comply with result, makes an implementation more safe and reduces the risk of human factor. These ideas are understandings of alignment by interviewee D. In general, there is a confirmation from interviewees that implementation methodology is important. In the alignment literature there is no enough research done about how methodology affect or impacts the enterprise system and business alignment.

Interviewee A agreed to importance of methodology to successfully finish the project. On the other hand he mentioned a negative aspect that it could be difficult for customer to work according to methodology because he is not used to it:

*"If the customer is not aware or not used to such work principles, he can be a moral, psychological hazard in that project". (Interviewee A).*

## 4.6 Part of framework: Processes

**Knowledge transfer between external consultant and business managers (Question 19-20)**
Respondents interpreted the concepts of "knowledge gap" and "knowledge transfer" differently.
Interviewee B understands knowledge transfer as process and says that information is transmitted in different channels, speaking orally, visual information. Another way is observation, if possible to feel and to try yourself. Additionally, a good consultant should look for literature what are the problems and specific in similar companies, what are possible solutions.

Interviewee A understanding of knowledge transfer was more about the way to express knowledge and necessity to adopt to the listener:

*"If you see that your customer has difficulties to understand the knowledge, you have to find a way to present them in other format, so he (the customer) wouldn't have any stress, and won't stop." (Interviewee A).*

Ko, et al., (2005) argues that knowledge transfer is a critical factor for a successful implementation of an enterprise system. Newell, et al., (2004) define knowledge transfer as a process when different experience and background are dispersed among the project team members and within the organization. As well as distribution of information knowledge transfer needs a willingness to communicate and a common understanding among the project team and the organization. Wang & Chen (2005) also agree with this and states that knowledge sharing and to which extent the consultant and users understand the other side of the consultancy process is a prerequisite for a successful implementation.

**Successful implementation process (Question 23-24)**

When asked what is successful implementation in general both interviewees C and D confirmed that it is when a customer is satisfied and accepts the system. Interviewee C said that there is a little time lag before after formal implementation before it can be called a successful one:

*"It takes time people to get used to it, to adopt. After I would say 3-4 months the customer says that everything is fine and the system satisfies our needs, than the implementation is really successful." (Interviewee C).*

Another criterion of successful implementation is meeting the project objectives and delivering the deliverables (Interviewee D).

## 4.7 Summary of findings

Here follows a table with our findings based on the interviews respondents' answers. This table is created to show the reader an easy-to-view overview of the respondents' thoughts and answers. This also helps us to structure up the data for discussion and conclusion.

The table is divided into five columns, *Question*, *Confirmed*, *partially confirmed*, *Neglected* and *Surprise*. The questions found in the first column don't represent all our interview questions, rather the questions that are interesting for our research question and where the answer wasn't predicted by us.

*Confirmed, Partially confirmed, Neglected* – here we show what the participant thinks of the question. Confirmed shows what participants agree with the question and neglected if they disagree.

*Surprise* – shows what was a surprise in the findings, this is data that challenges or contradicts our interpretation of the literature review.

**Table 4.1** Table of summary of findings

| Question | Confir-med | Partially con-firmed | Neglected | Surprise |
|---|---|---|---|---|
| Players of enterprise system implementation: there exists customer and implementer side | A,B,C,D | | | An external consultant = an analyst. |
| ***Part of framework: Antecedents*** | | | | |
| Knowledge about business | A,B,D | C | | |
| System knowledge | B,C,D | A | | |
| Knowledge of methodology | A,B,D | | C | |
| Previous successful or unsuccessful experience | A,B,C,D | | | No difference between successful and unsuccessful experience. |
| Ability to get deeply into business processes | A,B,D | C | | Discovered possible assimilation between customer and consultant. |
| Motivation of an external consultant is intrinsic and extrinsic | A,B,C,D | | | No difference in long term and short term motivation. |
| Communication skills of an external consultant | A,B,C,D | | | 1. A psychologist. 2. a pedagogue. |
| ***Part of framework: Result*** | | | | |
| Alignment between enterprise systems and business is an issue | A,B,C,D | | | 1. Not a fashion, buzz word<br>2. Harmony |
| An external consultants role is crucial to achieve alignment | A,B,C,D | | | The consultant is a crucial and a key persona. It's the consultant task to create alignment. |
| A consultant is a connecting part between all other parties | A,B,C,D | | | No difference between long- and short term alignment when an external consultant is involved in the implementation process. Further research is needed. |
| Different levels of Alignment exist | B,C | A,D | | Alignment can be measured also in ERP environment. |
| Implementation methodology impact on alignment | A,B,D | C | | Methodology has to be embrained, it must be unconscious. |
| ***Part of framework: Processes*** | | | | |
| Knowledge gap exists (and knowledge transfer) | C | A, B | D | |
| Project success is measured in customer benefits and satisfaction. | B,C,D | | | |

# 5. Discussion

*In the discussion we start by analyzing our primary framework (see section 2.7) and presenting the changes to this framework according to our empirical findings. We also present a revised version of the framework and in detail explain why we add new elements, and what changes that have been done. This chapter ends by a discussion on implications of our findings.*

We analyzed the empirical data, compared our finding against the literature and from these results found some possible changes of our framework. Here follows a discussion and revision of our framework.

The primary framework can be seen in figure 2.6. Based on our findings we revised the framework and it can be found in figure 5.8. To this framework we added some new elements, changed some elements and some of the elements we left unchanged. To make it easier to analyze the framework visually, we put new things into circles and we put the changes into rounded-rectangles, while the rectangles represent the unchanged elements. Figure 5.1 below shows the graphics of these new elements. This is also for if the work is printed in black and white the colors would impossible to distinguish, but different shapes can still be seen. In the next paragraph all of these elements and the argumentation behind them will be discussed one by one. The shapes should not have any other interpretation for the reader then to make it easier to spot the changes.


**Figure 5.1** – New introduced symbols and their purpose.

## 5.1 The new elements

In the antecedents part a new element "External consultant's embrained implementation methodology knowledge" (see figure 5.2) was added. Both the literature review and findings from expert interviews showed that implementation methodology is very important in enterprise system implementation and it was also confirmed that using an implementation methodology helps to achieve enterprise system and business alignment. It was also found, that for a good consultant the methodology should be as a guide, a way of working. For this reason we put attribute "embrained" methodology, which means that methodology is so

usual in an external consultants work practice that he doesn't have any other way to do the work (Hansen, 1999).

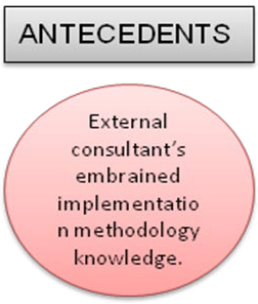



**Figure 5.2** – First (of three) new added elements, the only new added element under *Antecedents*

The first new element in the processes part of the framework is "Knowledge management" (see figure 5.3). It showed that primary element "knowledge transfer" was not enough.

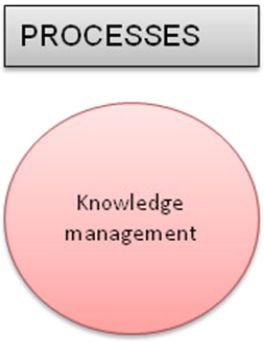



**Figure 5.3** – Second (of three) new added elements, this element is added under *Processes*

Because of the complexity of enterprise system implementation projects and the different knowledge that is needed, more attention to knowledge transfer between an external consultant and the business representatives is needed. It was found that it can be achieved with structured and well developed knowledge management. The knowledge management depends both on skills of persons participating in process and the tools available in organization, but it was found that issues of knowledge management are important to achieve better enterprise system and business alignment. For this reason we added this new element to the framework.

The second new element in the processes part of the framework is "Project management" (see figure 5.4). In our primary model we had an element called "Successful implementation

process". First of all this was not a process but rather a result. On the other hand, we found from both literature and empirical data that to achieve a successful implementation a project management is needed. Along with the processes, project management is one of the key tasks of external consultants. Due to the importance of project management to enterprise system and business alignment this element was added to our revised framework.

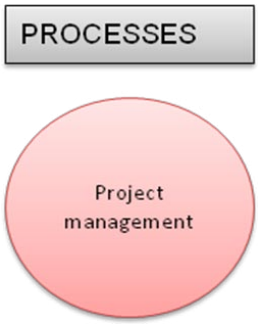



**Figure 5.4** – Third (of three) new added elements, this element is the second new element and are added under *Processes*.

## 5.2 The changed elements

In the antecedent's part, we had to review the element called "External consultant's previous implementation experience". In our primary model we thought that only successful implementation experience of consultant influences a better alignment between enterprise system and business alignment. After the analysis of empirical data, we came to conclusion that there was no difference between successful and unsuccessful previous implementation experience. For this reason we have made the change in the framework (see figure 5.5).


**Figure 5.5** – Change in the experience required by the external consultants.

Another revised element is "External consultant's knowledge of business and enterprise system and ability to apply this knowledge". The prior element was called "External consultant's to deeply understand business processes" (see figure 5.6). We came to conclusion that even the ability to deeply understand business processes was very important, alone by itself it was not enough to achieve enterprise system and business

alignment. Our interview experts said that an external consultant needs business knowledge, a system knowledge as well as personal skills and characteristics to understand this knowledge. When he understands he is able to judge and apply it in correct way. Due to such findings we revised the element and gave it a broader definition, which we think, represents the competence and knowledge which is needed to achieve enterprise system and business alignment better.


**Figure 5.6** – External consultant's knowledge and ability to apply this knowledge.

The last changed element "Knowledge transfer" (see figure 5.7) lays in the implementation processes part. We have confirmed the importance of knowledge transfer and we also found that more attention to knowledge was needed. For this reason we left the knowledge transfer and added knowledge management too. Possibly both these could be combined, but at the moment we haven't found a relationship between them and a further study is needed to find that.


**Figure 5.7** – Enhancement of knowledge transfer

## 5.3 The un-changed elements

The unchanged elements in the antecedents part are "External consultant's intrinsic and extrinsic motivation", "External consultant's communication skills and proactive-ness". We received a clear confirmation by our interviews that these characteristics of an external important were very important to achieve an enterprise system and business alignment. Below in figure 5.8 we present our new framework with all the above mentioned changes.

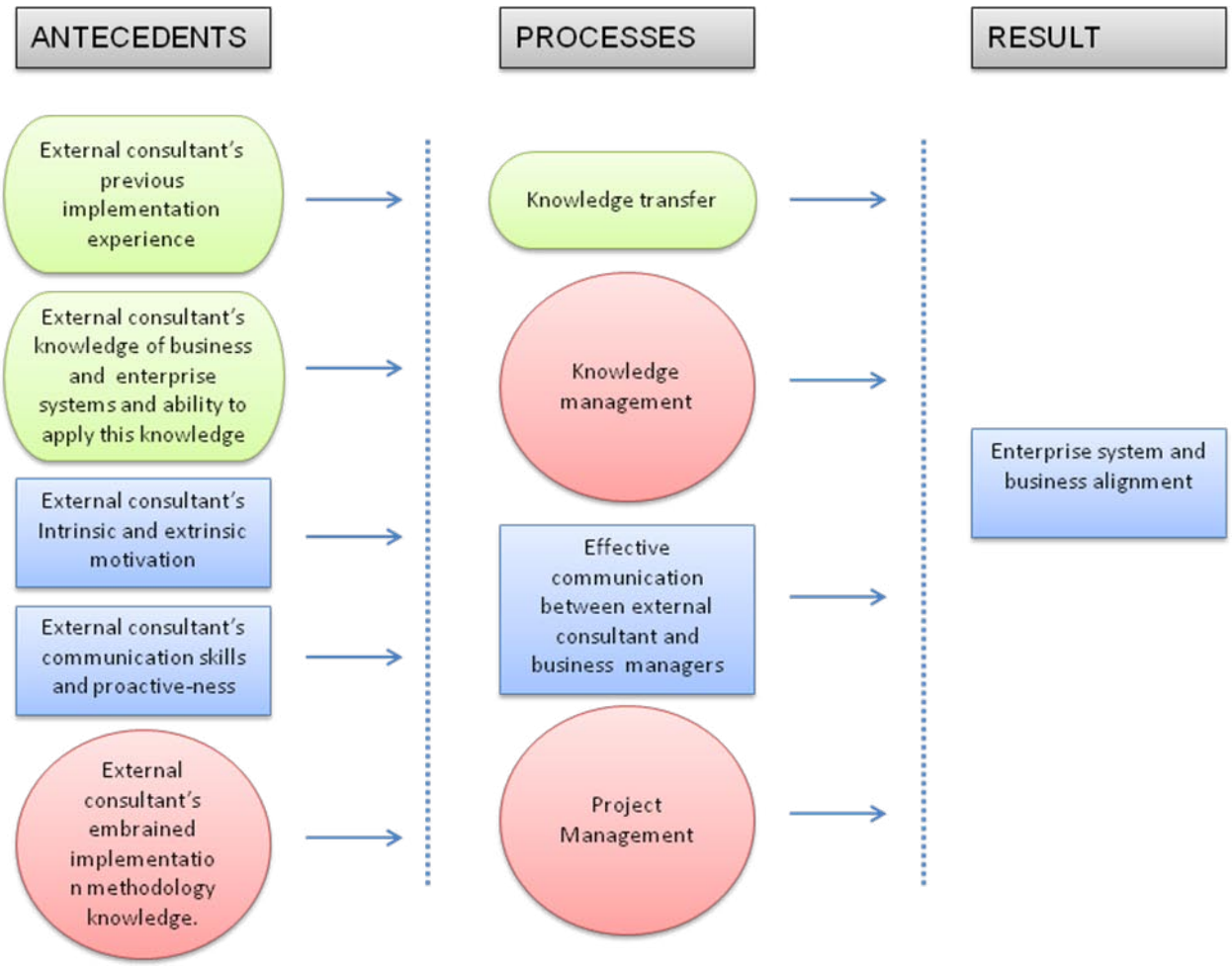



**Figure 5.8** – Revised framework of enterprise a system and business alignment from an external consultant's perspective (created by authors).

## 5.4 The relations between elements

After discussing the separate elements we should also pay attention to how they relate to each other. In our primary model we had an assumption that the antecedents influence the process and those, in result, impact the enterprise system and business alignment. Our findings showed up that we can't draw any kind of relationship straight away and further research is needed. The limitation of qualitative research method didn't allow us to reveal the exact relation. Though it allowed us to do a good exploration of the elements. For this reason we think that a further quantitative study will be needed to reveal the relationship between the separate elements. Based on our current findings we have a few propositions to the structure of model that it would fit the findings better. The main idea of change is that both antecedents and processes influence the enterprise system and business alignment equally. The proposition can be found in Appendix 4.

## 5.5 The propositions for new elements in the framework

It showed up from our empirical findings that another important element of enterprise system and business alignment is the customer. Our experts revealed that the alignment is achieved when the customer is satisfied and when the customer's requirements are met. For this reasons we think that this element could be added to the framework of enterprise a system and business alignment from an external consultant's perspective in addition with other two elements: antecedents and implementation processes. At this particular point we do not have enough information of what elements could be put under "customer", because a further research is needed. The proposition of such modification of framework can be found in Appendix 5.

## 5.6 Implications of findings

Our research results could be used by academia and practitioners. For academia, we developed a framework of enterprise a system and business alignment from an external consultant's perspective is an addition to the existing body of knowledge. In our research we revealed the importance of an external consultant in enterprise system implementations and confirmed his role vital for enterprise system and business alignment.

Our framework could be used by the practitioners, which plan to implement an enterprise system. Using the framework would let them to see the requirements for appropriate consultant to achieve an enterprise system and business alignment. By reviewing the framework elements, the requirement to an external could be collected and then if necessary some test to see, if he or she complies them could be held. On the other hand the framework will let organization representatives see what organizational processes will be needed and would give them an insight on how these processes can be improved to achieve the better enterprise system and IT alignment.

# 6. Conclusion

This chapter answers the research and investigation questions. By first presenting the answer our three investigation questions we are able to answer our research question. In the end of this chapter we present limitations and suggestions to further research.

The purpose of this thesis was *to gain more knowledge about the role of external consultants in aligning enterprise systems with business*. To achieve this goal we developed three investigation questions. The first question was to discover *what has been previously studied in the field of the external consultant's role in enterprise system and business alignment.*

To get a deeper understanding of our research question we studied previous research in this field by reviewing the relevant academic literature. It was found that IT and business alignment is a big discussion in academics for the last 20 years. Enterprise systems help the organizations to increase their efficiency, to raise the productivity, quality and competition level. Organizations implementing enterprise systems usually don't have the required internal resources and knowledge to implement an enterprise system themselves. For this reason they have to rely on the external consultants to help to successfully implement the enterprise system and align it with the business.

We found that there was little research about the external consultant's role in enterprise system and business alignment. We think this is an important research issue, because an external consultant is identified as being a key persona in the system implementation by the literature. Previous research showed that there is a big risk in failure to implement an enterprise system due to insufficient alignment to business and not meeting the business requirements. The answer of the first investigation question is presented in the literature summary section 2.7.

Our second investigation question was to find out *what is the role of external consultants in enterprise systems implementation.* To answer this question we reviewed the literature and gathered empirical data to investigate the external consultant's role among other players of enterprise system implementation. We investigated the skills and knowledge that consultant needs and the tasks that the consultant is involved in during the enterprise system implementation.

In our thesis an external consultant is a person whose task is to identify business requirements and adapt them for efficient use of enterprise system on the customer site. Both

the literature and our empirical findings showed that an external consultant is an important player among other players while implementing an enterprise system. An external consultant must have a good knowledge of business, enterprise systems and implementation methodologies. He must have good communication skills, be able to listen, be proactive and motivated. An external consultant's previous implementation experience is essential. Our thesis focuses on the consultant's role in enterprise system implementation phases from chartering phase to shakedown phase from Häkkinen & Himolat (2008) (see section 2.4.1). This includes the tasks and functions that an external consultant does during the implementation of an enterprise systems as well as project management and knowledge management tasks.

The third question investigates *how an external consultant relates to enterprise system and business alignment during implementation.*

Knowledge and knowledge management is an important part of this thesis. Having knowledge management in mind allowed us to connect consultant roles during enterprise system implementation with his role to achieve alignment. Knowledge transfer and knowledge sharing allows the external consultant to communicate his knowledge, use his skills to help the customer to achieve enterprise system and business alignment. Our empirical findings emphasized the importance of knowledge transfer and we also found that more attention to knowledge management was needed.

Our findings extended the definitions of alignment found in literature. In our thesis an enterprise and business alignment encompasses three perspectives related to the role of an external consultant:

- The business side, which means meeting the goals of business and adapting the enterprise systems to the business strategy;
- The implementation side, which means formulating the system requirements well and doing appropriate enterprise system configuration;
- The customer side, which means fulfilling customer satisfaction and give them benefits.

We found that an external consultant helps the companies to achieve the alignment between enterprise system and business. This opposes Hussin, et al., (2002) claim that an external consultant is not important to achieve alignment. Hussin, et al., (2002) study was within the field of general IT and it was conducted in small companies. As our study involves

enterprise systems, we found that an external consultant plays important role in enterprise systems implementation. As none of above was discovered in previous research, we found that the role of an external consultant is very important in enterprise systems and business alignment.

After answering our investigation questions, we can answer our research question: *What is the role of an external consultant in enterprise system implementation in order to achieve business and enterprise system alignment?*
We can draw a conclusion that involvement of an external consultant has a **significant role** to enterprise system and business alignment. Our empirical findings showed that an external consultant is a connecting part, a crucial player to achieve an alignment between enterprise systems and business. An external consultant by using his knowledge, characteristics and skills helps a customer to gain the maximum benefit from an enterprise system.

## 6.1 Limitations and Further studies

We discovered the importance of an external consultant to enterprise systems and business alignment, but additional research is needed. Further study could involve more enterprise systems consultants and experts from more companies worldwide. This would guarantee a better validation of the framework and allow do more generalization of the theory. On the other hand, we must admit that there exists another part of this research field - the customer. In our study we only focused on view of external consultants, because they have most knowledge and multiple case experience. For further studies, the same research could be done from customer side. This would allow to compare two different perspectives and add more credibility to research findings.

Because we used the qualitative research strategy it was not possible to discover the relations between elements in the framework, we consider this as another limitation. A further quantitative study could discover how factors influence each other and how they relate to enterprise system and business alignment. A quantitative study could also reveal which ones are the most important, for example by ranking the factors.

Our research is primarily devoted to consultants that are involved in enterprise system implementations, but not for example IT security consultants. In further research, our framework could also be tested in other related IT fields, such as CRM, SCM systems to see whether there are differences in the role of an external consultant or maybe the same elements are important.

# Appendix 1 – Interview instrument

**Briefing**

*Introduce researcher to interviewee. Thank for his time. Inform about the purpose of study. Purpose: The purpose of this interview is to gain new knowledge about the role of an external consultant for enterprise system and business alignment. Explain why he/she was selected for the study. Explain the agenda for interview and it will take about one hour.*

*Research ethics: Ask, if it is ok with interviewee, if interview will be recorded. Ask, if interviewee agrees that his name would be mentioned in the report as an expert. If not, discuss the level of confidentiality that is appropriate for interviewee. Start the conversation.*

**Main part**

*Background questions:*

1. How long have you worked in the IT business?

2. What is your current position or occupation?

3. What kind of experience do you have on implementing enterprise systems?

4. Could you give some examples of successful or unsuccessful implementations?

*Questions referring to extract what the consultants view of the key player and their roles in enterprise system implementations:*

5. What key "players" exists while implementing an enterprise system?

6. What is the role of external consultant while implementing an enterprise system? Why is this so?

*Questions referring to the ANTECENDENTS part of the framework:*

7. What knowledge does an external consultant need when implementing enterprise system?

8. What can you say about the knowledge of implementation methodology?

9. What impact does successful previous experience have to external consultant?

10. Why is it important for an external consultant to get a deep understanding of business processes?

11. What is the motivation of an external consultant while implementing an enterprise system? Are there differences between short term and long term motivation? What can you say about intrinsic and extrinsic motivation?

12. What is your opinion about communication skills of external consultant? What do you think about the proactive-ness?

13. What result do all the above mentioned factors (successful previous experience, ability to deeply understand business processes, motivation, communication skills) give?

*Questions referring to the RESULT part of the framework:*

14. What do you think about the business and IT alignment in general?

15. Is there a difference between short-term and long term enterprise system and business alignment?

16. How can alignment be achieved?

17. What impact does the implementation methodology have to enterprise system and business alignment?

18. What is the impact of external consultant in the process of alignment?

*Questions referring to the PROCESSES part of the framework:*

19. How do you understand the knowledge transfer in enterprise system implementations?

20. How does the knowledge transfer affect the alignment between the business and the enterprise system?

21. How do you understand the effective communication in enterprise system implementations?

22. How does the effective communication affect the alignment between the business and the enterprise system?

23. How do you understand the successful implementation project in enterprise system implementations?

24. How does the successful project implementation affect the alignment between the business and the enterprise system?

*Concluding questions about enterprise system and business alignment:*

25. Is IT and business alignment an issue in enterprise systems? Describe why?

26. What is the impact of external consultant in the process of alignment?

**Debriefing**

*Thank for nice conversation. Explain the further procedure, that data will now be transcribed, codified and analyzed. Ask, if it would be possible to contact the interviewee by e-mail or telephone if any additional questions would raise. Inform that the transcript will be sent to Interviewee for revision.*

# Appendix 2 – Interview transcripts

## Interview A - Danas Sindaravicius

**Date of interview: 2009-04-01**

**How long have you been working in IT business?**
For six years.

**What is your experience with enterprise systems?**
From 2001 till 2006 I worked with Microsoft Navision. But I was mainly on sales. For 1.5 years out of these five, I was a manager in a subsidiary in Latvia. During these years I was responsible for projects.

**What is your current position?**
Now I am responsible for sales. I am responsible for finding new, potential customers, looking for opportunities and so on. The current product is Microsoft Dynamics AX.

**Can you tell some success story with enterprise systems from your experience?**
I have some doubts. One can be from sales point of view, and second from what benefit company gets and how it impacts.

**All the experience will be appreciated.**
From sales perspective, there was a chain of companies in the food industry. It was a very hard-fought sale, because external implementers compete together. And there was competition between the products, say Scala. So there was a hard fought sale, the meetings took place twice a week and sometimes I already lost the faith. But in the end everything finished good, because in sales it is important to put your leg inside, recommend yourself well, a project is successful, then you get the prerogative to implement in other group companies during other projects.

Other, an agricultural company was about processes in a company. For example the rejection of elderly age personnel which was impacted by enterprise system. It helped to save time, the work made more effective, but it can be for a price that human resources will have to be redistributed. Another project was in Latvia, at first there was dissatisfaction, but after year when I asked was it really so bad and you would cancel the project, they said no, the primary dissatisfaction is gone. And every person and organization has so called self-defense instinct, so if you don't know, if you don't know how, then it is also not interesting, scaring and etc.

**Who in your opinion are the main players, when we speak about purchase and implementation of enterprise system?**
Then lets talk about large companies. In those there are always separated shareholders, separated or clearly defined management, the board. And the executives, the administration representatives, directors and so on. By distinguishing when we see what decision power for example executive directors have. Sometimes it depends on business area. So the players are CEO, finance director, IT manager. These are three main. If a company is a manufacturing, so the need to implement the system rises from manufacturing department. Finances can live by themselves, they have small programs and calculate, but the manufacturing usually has a S.O.S. situation and then they rise that question. So it can be one more player, the manufacturing manager.

**What role does external consultant play in this process?**
Firstly, he has to feel the pain in a company that he is invited or hired. To make an opinion how much does it pain, what is the relevance.

**And how can you measure such things?**
You need to know a little a persons psychology. Before you go to customer, you need to know, to understand or get information, what is happening in that business area. And then you can have a picture what does that company feel while conducting it's business. And then you can name, or grade say from 1 to five and see if the customer has a big, or not such big pain. Maybe customer doesn't have the pain, but he is innovative and willing to get new knowledge. But anyway, this the external consultant should firstly grab the problem and then he can allow himself speak more, on more various topics. Not only talk about enterprise system, but talk about more global things, or personal things.

**So if we look at this process, what is the role of external consultant in this process?**
If we talk about situation which is mature, that is to not in situation when an external consultant finds someone and tries to persuade. If we say, that customer is mature and he addresses himself, looks himself for external consultant, than the importance of external consultant is very big. From his (*external consultants)* words, or sometimes from reversed processes, such as a try not to rush the customer to evaluate situation, look at his cash flow, can develop a very positive opinion. What is final, will only be positive. Very big importance.

**What knowledge does an external consultant need?**
He need to have at least minimal technical knowledge about product. He definitely need general macro-economical knowledge, knowledge about what happens today, to have an example alternatives, for example how neighbor companies are doing. Knowledge to understand what customer says and try to measure that and see if customer is open or not open. An external consultant should have such competency to be able to listen, to be able to raise questions and through raising questions to collect the information. That is to say, an ability to provocate for open conversation. And of course and external consultant must be ready to answer tons of different questions, which are usually unexpected. Questions could even be personal and not related to professional activities. Also the customer might attack, contra-attack and try to break of track, in such way he tests external consultants competence, preparation.

**What can you say about methodology knowledge?**
Methodology, whatever it is "Diamond" or "On-Target"(*Navision's*) are required. Because they systemize activities, they allow to collect and systemize information, and not to do a bunch of data which is very difficult to read later. The importance of methodology is obvious, but speaking about methodology itself, whether it is good or bad, this question is open for every period. Because the same as the customer changes, today he is well informed, well-read. I think the same the methodologies should be revised too.

**Do you think the methodologies are not revised enough?**
It depends on vendor. For example for Microsoft products, I think that everyone should work on that and should offer. Maybe inside Microsoft the methodology is revised, retested and so on, but is not clear if it will be changed in future. For example, everyone moved to dot net *(.net)*, and it was a revolution. Another revolution is technological, when MS Word went from 5 to 7, from 8 to 2000 and so on.

**Can you share some personal experience about using methodology, where it work, where it didn't work and you had to use your own head.**
Maybe I won't find a quick example, but example is like this – who can deny the basics of economics, for example in production. Production is a set of raw materials which will be used to produce some kind of product, that is to say to connect to one single thing. When you implement the enterprise system production module, for example in meat industry, so the process is completely reverse. The product is firstly cut in peaces, and from these components again something is produced. This is completely different from normal process. So in the methodology you could discover, that the situation is not typical, it is specific, so the acting should be according to situation. So this is my example.

**What impact does previous successful or unsuccessful experience have to consultant?**
Oh, a lot. First thing is self trust, and it says a lot. If previous successful experience allows you to think, that the way you did and what you did is true, so you can try to use this at the ongoing moment too. Of course you have to evaluate, what kind of product and what kind of market it was. I can't say about unsuccessful experience but when I try to imagine, how an external should feel. He is more vulnerable in conversation with customer. The customer will say that you do something incorrect, you say something incorrect and this hits the self-trust of consultant, because he can't be 100 true, that you do it right. Even if you do it right. So the impact to self trust is the biggest.

**What personal characteristics should an external consultant have?**
Solidity, maturity, the awareness of business etiquette. Well, this could maybe be learned. He needs charisma, of course he needs to be communicative. It is very important that this person would proactive, which wouldn't need a pull-drag principle. And I also think that the person should love him work a lot. He must have a pleasure from it.

**Why an external consultant should be able to get deep into business processes? I mean if you an external consultant, you do not only need to know your issues, but be able to understand the others' pain.**
When he will get deep into processes, he will firstly know that the things he offers are appropriate for customer. This will let to understand that. This will be more useful for customer, because the consultant will know that that product is appropriate. But the consultant himself it will be useful, even if doesn't manage to convince the customer, he would know that he is able to distinguish, whom the product is appropriate and whom not.

**We can also reverse the question, and ask what risks are if an external consultant doesn't get a deep understanding of business processes?**
So, all the consequences because of not enough understanding. That is to say the project is not evaluated adequately, project complexity is not evaluated correctly, cost are not weighted enough, the benefit is not measured. And if there is no measured benefit, it is equal to collapse of project. Also the dissatisfaction of a customer. And also, when a consultant doesn't get deep into processes, so not even for him, but also for his colleagues, it will lead that the implementation will be done in standard version, which will not cover the requirements. And one unsuccessful project gives 10 more opportunities not to sell to others.

**What is the motivation of an external consultant, what drives him?**
First of all, it should be self-born-with motivation to do the job. That is to say, to do the job well. You must be completely driven by job, from what you do. The second thing, is that motivation is of course a social guarantee. As for every person, you should feel socially strong, than there is a motivation too. Another thing about motivation is that in relationships with customer, when a consultant feels happy, then the customer also thinks that everything is ok. And if we imagined an unmotivated

consultant, who comes and only does some technical job. This leads to poor relation and in long term the question of changing an external consultant could be raised.

**Are the differences between short term and long term motivation?**
This is a difficult question. And I will say, how I understand this question. First of all the motivation of self, the recognition of what your work, your results, the motivation can be expressed in wage. And the motivation can be expressed with professional development. And motivation can be expressed in a way you do the project. So for self motivation, it is very good if you receive some feedback constantly, each month or two month. So everything is well, you can see that you succeed and are on good direction. If we speak about wage, if you work and earn one bonus a year, well one year is ok, but if you get a bonus say once in three years, that is no motivation at all. Half will be eaten by inflation, half will be some changes in your plans and so on. The self motivation is good when it is periodical, according to your definition it is short term. A monetary motivation also should be periodical, so I would also say short term. And for long term motivation, I would put the professional development. In this you can because of lack of abilities, lack of time, or depending on situation when you have a project and you are tied to it, but in general you grow as professional. So this professional development and motivation I would consider as long term. And project finishing, closing I would also consider as long term motivation.
So what means the previous successful or unsuccessful experience. So when you look at somebody, who works that or that amount of years, and you see that the customer grows in your eyes, and you know that you have consulted them, they use your products, that is also a long term motivation. And this drives, drives a lot.

**What is your opinion about communicational skills of an external consultant?**
An interesting question. That is very important. That is extremely important. And what I have came up with personally in this consultancy business, is that when a person speaks and builds his thought orally looks that everything is well. But on writing he doesn't pay much attention to that, or pays much less attention, and this shows his inability to connect everything to total level of communication. Examples of what I say is a letter with poor content, or some poor phrasing, or not enough attention paid. Say instead of "good day", he writes "hi" or something. And if the communication is it's very beginning, when it is still not in that informal friendship between the external consultant and customer, so such details break the overall image. So with oral communication it is ok, the importance is very big. And the written communication also has big importance. But there are examples that sometimes they miss shoot the target.
So to conclude these question, what result the characteristics of an external consultant that we spoke about (successful previous experience, ability to deeply understand the business processes, motivation and communication).
To conclude it is important the previous successful experience, but it can also be that there is no it. In example a person can be young, so I would eliminate this. Certainly the abilities to communicate. I would also like to mention the knowledge and understanding of a product, about business and market. And personal wish, personal motivation. All these are crucial.

**Now we move to questions which are more general. I would like to ask, how you understand enterprise system and business alignment?**
(*Pause for 5 seconds*), I understand that it shouldn't disturb…First thing, it should help the business. It in any case shouldn't be just a panacea, a fashionable thing. And it should be measured, or there should be a statement valid that you can in invest into enterprise systems the amount that you earn. So my first thing that the costs should be measured or investments to enterprise systems should be measured. There should be a harmony. Not only that this is fashionable.
One of definitions of alignment says that an enterprise system and business are aligned, when enterprise system fits business strategy and objectives. Could you give a comment on this?

With my previous response I wanted to say this. It's certainly like this that, the alignment is technical possibilities, functional possibilities. So not to have a lot of implemented modules and so on, which are not used. They must be exactly such, as represent the specifics of activities. Because an example, a customer may implement a wide functionality, including CRM, but it will show that it doesn't use that CRM, because some salesman or sales managers say that this is not convenient for them. So it is better to use some specialized solutions, Outlook and so on. This is some kind of misalignment. And most probably it was sold to customer more, than he really needed.

**Can you find differences between short term and long term alignment?**
I think, yes. Again it depends on situation, depends on company, in which area the companies work, from the selected product. Say, there are some good situation, where for example the vendors apply some discounts, so the customer can buy it and implement it for quite long time, so the customer saved on software, but the implementation process takes longer. I think this can be aligned with both short term and long term goals.

**How can alignment be achieved?**
This is the place where we return back to consultant. The consultant must know the area of activity, he has to have an insight, be able to evaluate if the customer really needs it. So these are the most important issues. I will tell an example from my experience. There was an implementation in one company. Again I would like to refer to the key persons, and in this case there are some persons who maybe shouldn't be considered as key persons. So to the analysis the whole department of accounting participated in interview. The four accountants brought their accounting manuals and began to name the reports that they would need in new system. In total, I think, they calculated a 100 different reports. As usual, there is no reports in standard version of enterprise systems, so these should be programmed during implementation and the customer pays for it. The situation was around 4 years ago, when there was a big grow in market. After 8 months, when the project was closed and the customer employees started to work independently. Then they were asked, how many of those reports do you use. And it showed up, that mostly it was only 17 used. So this is an alignment, how an external consultant say that we shouldn't do that much and he will earn him a better respect. In contrast if he would say let's do all 100 reports, but later I won't take up the phone because the customer will complain that there was something sold, that was not required. So in my mind, the honesty principle must always reveal. You must become a friend.

I will tell another case. The distance to the customer was around 300 kilos (*km*), the project was run before the holidays, it was a preparation for a lauch of new module, I think it was production. So the relationship of a consultant with the department of accounting was so good, that he got his own shelf with tooth brush and things like that at a customer site. Can you imagine? It was also, that consultant worked till late night, so the head accountant invited her to spent night at her home and not travel during the night and come back in the morning. So the relationship is very important. So to get it, it is very important not to say things, that can't be said. You simple have to become a friend, then there will be a true relation.

**Does the methodology have any impact to alignment?**
I think, yes. It was about your question about deviations. Implementers, consultants they propose methodology, but it can be totally unacceptable to the customer. Because he is not used to work according to it. So methodology has impact. As I mentioned, to control the processes and to systemize the data, to state the further steps, to have a team for certain period, to have so called milestones. But from negative side, if the customer is not aware or not used to such work principles, he can be a moral, psychological hazard in that project. If he is said, that now the customer will be analyzed, and he requires to install the solution first, and then we would look what happens. There

could be moments like this. But sometimes to solve this, there is a demo version setup, and then it is showed during analysis phase. So work goes parallelly in old and new system.

**From knowledge we know that there exists a knowledge gap between an external consultant and a customer. To solve it the process of knowledge transfer is required. How do you understand the knowledge transfer?**

The importance is big. I have one example, maybe stepping little bit away from topic. But there was some discipline called the culture of language in my studies. And it was lectured by head of language committee, so we asked how to say and stress some specific words. And then we asked the lecturer, if he was speaking like this (*literature correct)* all the time, in the street and other places, because there some jargon exists and so on. And he (*lecturer*) replied that it depends on situation. If from conversation I see that I can do comment to a person, and he will adapt to me, then I go for it. But if I say, that a person doesn't understand what I want to say to him, then in a street conversation, I adopt to him. And in this, again I become his friend and conversation mate.

So I think this is also important. To manage a project is to manage its duration, not allow the project to exceed the allowed limits both in time and cost. So if you see that your customers have difficulties to understand the knowledge, you have to find a way to present them in other format, so he (*the customer)* wouldn't have any stress, and won't stop. Another issue, that a project team could be changed. When the question of alignment is raised, then there is a proposal to change one or another side. That is my understanding of knowledge transfer.

**What is the impact of knowledge transfer to the alignment between enterprise systems and business?**

As I mentioned, very important. This is one of the phases when you look for and try to become like a customer. A role of external consultant is to explain, to say what is right, and what should or what should not be changed. And how are we going to do it. This is the most important thing. So then about the relationships, whether the customer wants to do it or no, the external consultant should adopt more rather than customer. So importance is high and ability to do this is sometimes developed and learned.

**How do you understand what is an effective communication between an external consultant and customer?**

It is the same like in company. One of assets of a company is an effective internal communication. So if during some executive meeting there was decided to change for example manufacturing process, this must be documented and easy accessible. And all other examples too. So communication must be a prerogative to do the project normally.

**What is the impact of external consultant to successful implementation?**

Ok. If we go through all those aspects, time, technological, cost – all of these stick together and customer is satisfied. Additionally there should be an obvious help or support, or managed bunch of previously occurred processes, so everything fits the business model of customer. So I think that then a consultant can say, that everything is fine, users are trained, everybody is happy, nobody has confrontations. The main thing is that it must glue, that the customer sees a benefit.

I can also mention an example, how sometimes a clone solution are good. I said the customers are smart today, because they are not afraid to ask the competitor. So they ask, for example, that you have implemented and have work with that particular consultant, can you let us in and show? I know 5 examples out of 10, when competitor allows the prospect to get inside and take a look at the system. So this is a consequence that your projects, and your consultations fitted the solved questions. Because technological issues are solved quite easily.

We can to section of conclusion questions. After today's discussion, do you think that enterprise system and business alignment is a big issue in this business?

Certainly. This is a rethorical question. There should be a harmony everywhere. You can't live without that.

**Then I want to recap. What is the impact of an external consultant in this big cloud?**
Then rhetorically let's call it like this. A consultant is a connecting part, between all other parts. Those are customer, his business specifics, business area, the offered ERP product, the questions solved, professionalism, technologies. So if drew some molecular structure, so in the middle we could put a consultant who connects both processes, both everything else.

**Are there different levels of this harmony?**
Certainly. Absolutely. I imagine, this could be a separate part of research, because the example is like this. New cars are new cars, there different producers, different models, they already differ between each other. Even that all of those have a silent engine, advanced equipment. But with this, one producer still has some models which are successful and some which are unsuccessful. One has trouble with gear box, and other has problems with lighting mechanisms, which are produced and can be delivered from say Finland. So this is a harmony. But there two level of harmony, if you drive with no disturbance and if you drive with some disturbances. So the same in companies. Sometimes customer thought that his harmony is solved with some hundred thousands, and another imagined that his harmony is full completing of project, with full satisfaction, for more. So both have the harmony, but the consultant can look from aside. The first one is more harmonical.

**I would like to thank you for your time and answer.**
**End of transcription of interview A.**

# Interview B - Dalius Butrimas

**Date of interview: 2009-04-02**

**How long have you worked in IT business?**
I have to count now. Around 10 years. I was only working in IT business. My first work was in 1998.

**And what is your experience with enterprise systems?**
In principle all these 10 years was with enterprise systems. Just some part of time was on a side of customer, where I worked and implemented. And the last 7 years I work as implementer.

**What is your current position? What are you doing now?**
I am a head of business solutions center in our company.

**What are your activities?**
We implement business solutions; I would like to emphasize the word solutions.

**Can you share successful experience, some success story with enterprise systems from your experience?**
Well, recently we have closed in a project in some governmental institution. It was a successful project.

**Why do you think it was successful?**
The successful projects can be classified by different criteria. If we look at formal budget criteria, which is defined by project management, so this governmental implementation is successful in such criteria. If we look into another project, which was held in one company providing urban and environmental services, I would also call it a successful project, because the customer uses a lot of system functionality and tries to maximize the benefit from it. In this point of view, it is really successful and I'm happy about it. And I also should say, that another very huge project which we ran for two years we should also call successful. Because with the size of the system, that is created now and how much it does, and how it does, and how complex it really is. So to create such kind of solution or in this case I should say a information system within two years, I think this is a fantastic achievement. Really good, because from quality point of view, how much the system is created and finalized, I am proud of it. Now there are some formal issues, but for say after six months I'm quite sure that customer will be very happy about it and will say that we have a monster.

**Could you also remember some unsuccessful implementation experience?**
I think every project can be described as successful or unsuccessful if wanted. But in each project you can find some criteria from positive side, and from negative too. But to mention a negative. When I was working in my previous job, I had an enterprise system implementation project. And in the end the customer was not satisfied, he chose another implementer company. So it was no ourselves moral satisfaction, nor customer satisfaction.
I think customer and self satisfaction complement each other. If we look at analogue of two persons relationship. If one loves and manages to convey that, so respectively the other persons love makes stronger and again. So this is a closed circle. The same thing with satisfaction. You can't be satisfied that you did everything well, if your partner, in this case a customer, is unsatisfied, he says that everything is bad, I don't get what I want. But you can't build a wall and take a distance saying that everything is good and beautiful

**Who in your opinion are the main participants, actors, when we speak about purchase and implementation of enterprise system?**
Participants are mainly from two sides, because project is done by two sides. From implementer side there must be a person who takes the project management role. I could mention a lot. If we go to details – analyst, documenter, tester, architect, programmer and so on. But if we look at the positions and not the roles, so from implementer's side there are three: project manager, analyst, programmer and if the system is larger an architect. And from customer side project manager, and accordingly analyst. These a person, key users who give information and who can make decisions, whether it should be like this or like that.

**I will be more specific and ask what role does external consultant play in this process?**
I think this depends a lot from consultant's company and how it positions itself and how it sees itself. There are some companies who see themselves as technical consultants. One of our competitors, at least before, said that they are technical consultants. They said that they won't consult the business but we know the system very well and can give advice on it. They didn't even try to do some business consultancy. So if we define the external consultant as a technical implementer, then his tasks will be to collect system requirements, system adoption, and configuration according to needs. But if we talk about the person who needs to understand business, than we have to raise one step up. So the implementing starts not from system requirements gathering, but from the analysis of customer's current business situation. And also giving advise how to change some processes, completely forgetting about the system for that moment. So in the beginning it should be looked at company's activities.

**So what knowledge does an external consultant need when implementing enterprise system?**
He needs a lot of knowledge from different fields. In total there three four main areas, but they are very very broad. The first thing is a good knowledge of principles of business, understanding of business, of business strategy. So this person must understand what is business, what it is used for, interconnections, how something impacts business. To understand trivial things in a company, but I would say that very few understand that normally, things like mission, vision, values, why does a company need them, how they should correlate with things we do. When a consultant goes to company, these issues should be first to start interviews. Well many companies write those things down, because it is required by quality system ISO, but they are formal and they lay down in drawer. But the company raises her strategies and policy, form it's culture with completely different principles. So there many such situations. But if we get back to the ideal situation, first thing what is needed to understand is the insight, then the strategies and the tools to implement strategies. With this knowledge the consultant can get deeper – to ratios, measurement, which processes must be measured, which ratios should be observed, how does the planning goes, how are bottle necks identified, also giving proposals about how to change some things. It is not that the consultant should know the specifics of particular company, but he must have a basic understanding, why these things are needed and what are their importance's, how they correlate to each other and which part do they take in the companies life. When an external consultant comprehends that, then he will be able to propose offerings to the company, that fits to their strategy and values. So business background is very important. Second thing, or maybe I should put it to first places. So another important thing is communication, psychological skills. Knowledge and skills. There persons who are born with some things, there are persons who learn. So the psychological aspect of communication is very important in this area, because if you won't be able to find a common language, to express your opinion, so all you knowledge will be null (*worthless*). So first place is communicability, knowledge of human psychology, the ability to create a good relationship atmosphere, so the company representative would be brave enough to tell everything. And so there wouldn't be situations were the information is filtered, because the customer doesn't trust the consultant, so the customer choses things to say or not to say. So I would say this is a critical thing.

Then when we speak about consultant who sees a vision and can give advice, how to realize a solution, so with no doubts the consultant should have a good basic system knowledge. So he would know what an ERP system is, what is a SCM (*supply chain management)* system. Which task they solve, which nuances they have.
So if we talk about a qualified (competent) consultant, not a student but a consultant who has a value in market and gives values, he needs a combination of those three blocks that I mentioned.

**What can you say about implementation methodology knowledge?**
Yes he definitely has to know it. This question complements. I would say this is a fourth block, equally important to the ones I mentioned earlier. This can be connected to system implementation, because every ERP system, like Navision had it's own methodology, other products also have their implementation methodology, so this is not separatable part from the knowledge of system itself. To be aware of at least some parts is essential. It is good when a person understand the whole methodology, then he knows what role does he take, what will happen from it. But it is not crucial for consultant to know the whole methodology, because it is a responsibility of project manager to track the whole project.

**What impact does previous successful or unsuccessful experience have to an external consultant?**
Both successful and unsuccessful have impact. In principle the experience has only positive impact to each consultant. Well again it depends on person how he manages to use that experience. If he did a job, turned around and says that I will do the same thing again, I won't try to modify anything, than maybe it won't have any influence. But if a person is thoughtful, developing, learning from his own mistakes. So if we compare how a graduate differs from a person with 10 years experience, so the only difference is actually that the one with 10 years experience has successful, knows that he can't do, and knows how to do things right. He has a competence, maybe even unconscious competence.

**What personal characteristics should an external consultant working with enterprise systems have?**
As I said, one of most critical issues is communicability. Concreteness, orientation to purpose, ability to select the most important things. From other side I can contradict a little. An analytical thinking is needed, ability to get deep into details. This should correlate together. We have examples where an analyst because of his perfectional principles is willing to improve improve improve something. But there should be orientation to the goal and a good balance found.

**Why an external consultant should be able to get deep into business processes? I mean if you an external consultant, you do not only need to know your issues, but be able to understand the other person, get into his job.**
When a person understands that, he can put himself in a customers place and evaluate his the reality of his own solutions. For example, as I consultant I could say that you will push some buttons and have a result, but if you need to push million buttons to have the result, so the solution with few button clicks is not a proper solution. But there are two different things, this ability to get deep shouldn't transform to get similar as customer. There is a risk, that the more deep you get, the more you limit yourself, and push to some kind of corner. The more you communicate with customer, the more you see that he transfers you his opinion and little by little he puts you to the same position as he stands. And then it is difficult to see the overall view and say "wait, why are you doing this, this is not necessary". As in all fields, it is important to hold the golden middle. So in this situation, it is important to get deep that your recommendations wouldn't be on theoretical, read in book or taken as a rule of thumb, but appropriate for the particular real life situation.

**How do you think, what is the motivation of an external consultant?**
I would say whether it would be an external consultant, or internal consultant, motivation in general is motivation. There could number of aspect that motivate, including internal and external. From internal it is a person's wish to develop, the wish to know more, the internal stubbornness, dutifulness. In the end there are financial tools of motivation. External are for example to do the result, so the customer would be happy, get a feedback, to see the satisfaction. To be proud of job, that it was difficult and I did it.

**Are the differences between short term and long term motivation?**
In principle, there is no difference in motivation. If again we look that the result is a motivation. If the result of implementation motivates during the implementation, at this moment. And if we speak, that such person is motivated by result, so he will be interested to hear, how is the customer doing in five years, is he satisfied, did he grow away from that system or not, if he uses much or doesn't use it.

**But when he implements should he think about future?**
Certainly. If we speak about consultant whose main goal is to help the company live better, to live more effective, to earn more, than certainly even when he works on the first phases, with understanding business logic, vision, mission. I would say the implementation will be bad if a consultant won't look with the perspective of 3 to 5 years. If a consultant works just as it is today, I would rate such work as low quality (*originally low qualification).*

**You know, sometimes theirs is a pressure to deliver on short term…**
There is always a pressure. To give the deliverables. In the end there is a project and project gives some kind of criteria, which create the pressure.

**We spoke already about communicational skills of an external consultant. But what could you say about such skill of proactive-ness?**
It is good, appreciated, but … Again, all the features are good when they fit together. There no bad, and no good features. It depends on how we understand the communicability. If we say that it is not only the ability to communicate yourself, but ability to listen, to communicate correctly, to look at feedback, if another party has understood or not understood. To check if you have understood correctly. So proactive-ness good, but if it shades down, you will so proactive, go to extreme and won't let customer speak only saying what he has to do, and don't pay attention how other people are feeling. And you try to carry the flag alone, in the end it can be seen that you go with your flag alone and everybody else are left somewhere far behind. It could be that on customer site there will be some strong person, and he would say thanks, we don't want you anymore, because we cannot find a common language.
But this is a philosophical question. I will go a little of the topic. There are people who try to prove their truth, that the truth is like that, and not like that. And the topic could be for example project management, or psychology, philosophy, there are many fields in life which are only theories. Somebody just put them together and that's it. But to say that one theory is true or untrue, it is impossible to asses. The same in this situation. All the features are good, but depends in which situation you use it. Even the anger is a good feature, if it makes you burn inside and motivate you to achieve the results. So it is difficult to name all features, and there could be some ambiguity too.

**How you understand enterprise system and business alignment? When it appears?**
It appears, when one complements other. When a business needs a system, and the systems fulfills the business requirements. Then it is an alignment. Again there can be any extremes. We can't say that a system should fulfill all the needs, because the question is if all of it is needed. We have to say, not the business requirements, but requirements expressed by business representatives. Because it

is a big question, whether they all are needed. So in this case I would a system implementation is good for business because it forces to rethink whether something is needed and what value it gives. So when they complement each other rather then limit, then there is an alignment.

**Is there a difference between short term and long term alignment?**
I think there is no. As I said, the system implementation I imagine as not an short-term project, but I think that this is devoted to the system life cycle. This is a live organism. It is said that system should be changed each ten years. So I think, when you implement the system you should think about those ten years in advance. This doesn't mean that within a year I would implement it and it wouldn't need any developments. Certainly, there will be need to improve it (*the system).* But you have to implement in such way, and be able not to fall to much to details, because there won't be an alignment when system will be adopted to customers needs, that it will become a difficulty to add additional functionality.

**How can alignment be achieved?**
This is an issue of professionalism of consultant. It depends from him, how much he will manage to persuade the customer, so the system standard functionality is really good, useful and gives them value. And also to show if there won't be any value from something.

**Can we then say that an external consultant dominates this process?**
Exactly. When you start working with customer, you see that he keeps the distance, doesn't trust but he gets closer. In the beginning he tries to put his opinion, especially in the first meetings, and a customer usually says "we know everything, we will tell you and etc". With every meeting, there comes a point when the everything turns around and customer starts to ask questions not only about the system but about business too. How for example to conduct accounting, or how to plan the materials. And I would say that only such projects, where there is a change is roles are good.

**Does the methodology have any impact to alignment?**
Certainly. It is tool, help, directions which help to put the focuses. It is a map. How the map helps us to go from point A to point B, the same with methodology helps consultant to go from point A to point B, which are from the beginning of enterprise implementation to the end of enterprise system implementation. But methodology I treat like that, that consultant should imanagine his work other than according to methodology. From the first day he starts working like this, starts using it and when he reaches the respective level of qualification, he takes it to unconscious competence level, when he uses methodology as a habit. Because he knows it, he feels it, its inside and it is used. I imagine, that it should be like this. We shouldn't even emphasize it, that is in principle not interesting. A person has his own map and drives according to it.

**From knowledge we know that there exists a knowledge gap between an external consultant and a customer. To solve it the process of knowledge transfer is required. How do you understand the knowledge transfer?**
It is again a theory. Information is transmitted in different channels, speaking orally, visual information. So knowledge is transferred by speaking to representatives. Or looking at how production works, observation. If there are opportunities, the feel, the try is also appreciated. So this is the gathering of full information, the gathering of knowledge. Additionally external sources should not be forgotten. So consultant when going to the customer should have those 3-4 areas of basic knowledge, to get deep into the specifics. Additionally a good consultant should look for literature what are the problems and specific in similar companies, what are possible solutions.

**What is the impact of knowledge transfer to the alignment between enterprise systems and business?**
The question would answer better than me. If you get deep and can draw some conclusions, then it would impact the alignment.

**How do you understand what is an effective communication between an external consultant and customer?**
It must be conducted in three channels. Oral – speaking, listening and visual channel. A consultant should listen when he asks question, he must communicate with his body both the self confidence and knowledge.

**I would like to thank you for your time and answer.**
**End of transcription of interview B.**

## Interview C - Andrius Girjotas

**Date of interview: 2009-04-03**

**How long have you been working in IT business?**
I started in 2002. So it is 7 years.

**What is your current position?**
I am a project manager. Currently I manage a project with document management system.

**What is your experience with enterprise systems?**
My biggest experience is with our in-house product. It's not fully an enterprise system, but it is a system for organizing work in company. It is used for automation of business processes. The examples of processes are hiring and firing employees, handling vacation, the automation of specific business areas.

**Can we call this human resource module?**
No, this is only one of part. It is about managing activities in company. It is about organization of work in company, and it consists of three main elements: human resource management, tasks and calendar. When we put these things together, we get a bunch of workflows, which make some business processs. Usually these workflows are shown in quality management system.

**Who in your opinion are the main players, when we speak about purchase and implementation of enterprise system?**
A first person is an organizer, usually a project manager. Then there is a business analyst who has to analyze the business processes and prepares an analysis document. Another person is the one who configures the system and does the additional programming. The additional programming is optional because it can be that the standard system functionality is enough, so it is enough to do the configuration and implementation tasks. Sometimes a tester participates and he tests if the system fits the business requirements, that were raised.

**And from customer side?**
Usually it is a person who is responsible for implementation of this system. As experience shows, it is usually a person from IT department or the manager of IT department. He manages the project, but the communication is run with business representatives who express their business requirements.

**You mentioned a business analyst. What role does this person consultant play in enterprise system implementation process?**
Every person that participates has some kind of role and is not separable from the whole process. But it wouldn't be possible to achieve this thing without a business analyst. Though we can find examples when a project is run without business analyst using the principle "out of the box". If the system is sold with customer accepting the basic functionality, then it is only enough to do a configuration. But configuration cannot be escaped. It would then be not a business process analysis, but some kind of plan from template, where all the required fields are written down

**What knowledge does an external consultant need?**
Firstly he must have a system knowledge and now how it works. At least basic functionality, what it does and how expanded it can be. He should also know some technical aspects, because when you do analysis not only you have to gather business requirements but also some technical information. This is because in our department the same person does both tasks. So he should gather information about the technical environment, about the amounts of data. This would be good to know such things, but it is nice to have.

**But there are specifics in customer business, say some are in food industry, some are in services. Does he have t o know something about it?**
I don't think that it is necessary. Maybe he should know it from user side. Because the consultant tries to find how the system can help business. But our system is devoted for document management. The principles of managing documents are unified and proved by government. And there are also European Union requirements. So these principles must be the same in all the companies.

**So this is some kind of facilitation in your job…**
You can say that this is a facilitation, so we are not getting deeply in nuances of business. But I speak about document management. When we implement the business processes part, it is different. In every company the problems are solved differently. These are not standardized. In this case a consultant should understand what is spoken about. When you go to the customer, you have to find information about his business, his customers and so on.

**What can you say about implementation methodology knowledge? Do you use any methodology in you work?**
We always tell a customer, what kind of environment should be prepared for implementation. And we used a standardized implementation process. It states in what turn should separate elements be implemented. This is written down and implementation is done according to this. But we do not use any specific methodology.
What impact does previous successful or unsuccessful experience have to consultant?
Every time you implement a system, it is some kind of experience. It could be positive or negative. Anyway, a person who has experience knows how things shouldn't be done or how things should be done to make it better. So a consultant can share his experience to the persons who manage the project, and the experience can be crucial for implementation. We live and we learn. This is a normal experience management.

**Why an external consultant should be able to get deep into business processes?**
This is obligatory. If a person doesn't get deep into business processes, he won't be able to describe them and raise a system requirements in a system specification. If a person doesn't get deep into business processes he does a big favor (*used ironically, in reverse meaning*) to his company. In such case the requirements a formulated badly, and due to this the specification or programming is done falsely. And when this is delivered to customer, it is not accepted and everything needs to be redone once again. From this there are bad consequences to the project budget, to work planning, the image of a company. But these are bad issues. If we got back to advantages of getting deep, it helps the external consultant to describe business requirements better. And the more clearly they are specified, there is a lower risk of project failure.

**What is the motivation of an external consultant, what drives him?**
There are many ways of motivation, it depends on what he gets from his company. An internal motivation could be gaining new knowledge, understanding business processes. I think every analyst is interested to know, what does his customer eat, how does he earn money, what are his customers, how is his business circling. So on Friday night he could tell a story to his friends about how the kitchen works in some say energy company. I think that a person can use that knowledge, that he gained during business analysis.

**What is your opinion about communicational skills of an external consultant?**
This is obligatory. The communication should be directed and clear. If you need information you must raise the question as clear and as simple as possible. We were thinking to develop questionnaires, which could be answered yes or no. It would be ideal to have such mix of questions

which could serve as basis for specification. The customer would fill in such questionnaire and as result a requirement list would be generated. But of course there could be specific situations. For example we always need to draw a functional chart of organization, because it is represented in the system, with putting all the users in the hierarchy. It is required by our system.

**We spoke about successful previous experience, ability to deeply understand the business processes, motivation and communication. What result do you think all these things give?**
A response is easy. The more of these qualities a consultant has, the more system is adopted to requirements. There are two ways. Either the system is adopted to business requirements, either the business requirements are adopted to the system. It is either Muhammad comes to hill or the hill comes to Muhammad. We try that the system would be adopted to business requirements. But if a company has a mess with its document management, and we have a finished product, so we can come and fix that mess with our tools.

**How you understand enterprise system and business alignment? When are they aligned?**
The enterprise systems remind the 18$^{th}$ century technological revolution. In production the machines were started to use and they began to take the jobs from people. So the systems these days work similarly like the machines during that time. In some part, they take the job from people, they make the work easier. So if the system won't be aligned with business processes, the people won't use it. Then it will lay aside and be a work obstacle. If it works in inappropriate way, it can be that it will make the situation even worse. So if analyst holding all previously mentioned qualities formulates the business requirements, the system is aligned and implemented correctly. This means that system complements the business of company. It ensures some business processes, improves their efficiency by digesting the data faster and so on. So then the system is aligned with business processes.

**How can alignment be achieved?**
It is hard to say more. Well, we are humans. So the more simpler the system is presented, the more willing people are to used it, the faster they understand it and assimilate it. But in this case we move from business and look how much the system is adopted to a person. Because there systems, say baking, which work independently from people. And in case of systems, who have a user interface, if the interface is not adopted, with bad coloring, mixed buttons, no consistency in windows. So if there is a harmony between a human and system, than of course it is used more, the bigger relation exists.
What is the role of an external consultant in alignment of enterprise systems and business?
Yes, he is a critical person. The more mistakes he makes, the lesser alignment will be.

**There exists a knowledge gap between an external consultant and a customer. Can you comment on this, how you understand this?**
As I said, from customer side the gaps are mitigated by technical people. We recently had a project in one governmental company, were the representative of customer was a manager of IT department. He filled a lot of gaps. He knows both IT and business. So when business people expressed their requirement, he filtered those requirements himself. He knew what we can understand, so he took away the unimportant details. So there is a chain between the people who give the requirements and the programmers. There is a business side, which formulates requirements. In this side, the last person is some IT person. He filters the business requirements, and transforms them to technical requirements. These prepared requirements are taken by our consultant or analyst, who does the analysis. If something is unclear, he gets back to customers IT person and he then formulates questions to business representatives. And when the requirements are specified, the next phase is writing system specification. In this situation the knowledge gaps are eliminated by that chain. If there is no such chain, even if it is the consultants work to get deeply in processes, there are possible problems in communication. It can be as broken telephone, somebody missed something and didn't write it and the chain continues further.

**You mentioned a broken telephone. How do you understand what is an effective communication between an external consultant and customer?**
An effective communication must always be formalized. In projects must obstacles arise because of ineffective communication. And the one to blame is a project manager who didn't manage to assure the effective communication. So that's why I say the communication should be formalized. When a document with all the decisions and plans is prepared, so when everyone signs this documents it means that everyone understands things written inside the same. And if there are some problems, you can always refer to such signed documents. This is one of ways to assure. Another thing, which can raise the quality is a communication plan. All the final communication points are written there. When we have a customer and implementer, and there are many points of communication, then there some information flow pass through each other. And usually some information is lost, and somebody doesn't know something.

**What is in your opinion a successful implementation?**
I would separate this to two stages. First stage is when the project is successfully implemented, when the system is implemented and customers accepts it. So the customer is satisfied that he has a system and the system runs. But there are always a lot issues in the beginning of use, because it takes time people to get used to it, to adopt. After I would say 3-4 months the customer says that everything is fine and the system satisfies our needs, than the implementation is really successful. But it is hard to achieve this.

**Why?**
By now in our department we don't have a person who could do everything 100 percent perfectly. And I think that there are very few projects which could be called perfect. And sometimes the customer sees that the system works well, but it could work even better. Then we consider if this is an additional requirement or something that was missed in the process.

**How do knowledge transfer, effective communication and successful implementation influence the alignment?**
If we consider the alignment as a result of system implementation, then of course they have influence because every gap leads to misalignment. So these things are related. It just that every unclearness leads to bigger misalignment. If an external consultant misses some part what customer says, he hears only 90 percent, so 10 percent is unaligned. So in some part the system will be not aligned with business.

**Could there be different levels of alignment?**
Certainly, each system either fully, either partly fits the requiems or it doesn't fit the requiems. But I am sure that the customer won't accept the system if it doesn't fit his requirements.
After today's discussion, what is the impact of an external consultant in this big cloud?
Critical. Alignment depends on him. Alignment doesn't depend on project manager. Project manager can influence how the project will be realized. In project management there three main issues: time, budget and quality. So we only speak about quality here. Alignment is a measure of quality. The higher the quality, the bigger is consultants impact. The more he works with analysis and consultation, the higher quality is achieved. But also by paying too much attention to this, he can do harm to time or budget.

**Thank you for your time and opinion.**
**End of transcription of interview C.**

## Interview D - Arturas Inta

**Date of interview: 2009-04-03**

**How long have you been working in IT business?**
My first job was for 2 years in IT, then I spent a year not in other field doing business. And now for the last three years I work in IT with enterprise systems. So in total it is six years.

**What is your current position? What are you doing now?**
I am a product manager. I am responsible for the BI solutions and their fit to our customers. I am a second person whom the customer sees after seeing a salesman. I clarify (*originally distill*) the customer's problem and think of solution. And second thing, I develop the competency in BI products in our company.

**Could you share some previous successful experience, some success story with enterprise systems?**
Successful experience. Well to say, there is one example, which in my mind represent well, how it should work. Maybe it didn't gave the full result, because the sale was not committed, but the solution itself was accepted quite positively. We got information that one company has some sort of problems, that is to say they have a bunch of subsidiaries and there is a need to see and observe their situation on individual and overall level. So, they were looking for solution for this problem, how to solve this problem. And my, as product managers, task was to propose them a solution, which could solve their existing problems. For this, that we have a tool, as instrument, is good, but the main thing that I want to emphasize is that first step was the distilment of their requirements and writing them down. So that is in the presale phase, when you prepare before a sales offer and before customer evaluates how much money they can spend. The situation is that if a person starts to sell a system. I will go a little away from topic and say an allegoric thing. People start to compare a system. It is like a bake of bread, it has weight, it has size and taste. The parameters. System also, whether it has a CRM, whether it connects to SQL, whether the vendor is cool or not cool. All, very very clear parameters, and when the price is compared, it will be impossible to prove that this is an advantage if a good system is twice or three time more expensive. This is a wrong way. But if you show, that a person, I'm sorry, a company solves it's business problems, than the benefit can be seen immediately. An as a tool it (*the system)* goes to second place. You go and offer a solution, how he could live more nicely finely, in the end to earn more money, how to improve his business. An after this, the conversation about a tool starts. And in this case, I think, the job was well done, there was an evaluation provided, and the customer marked our proposal well and we were the favorites. And I hope that in other cases we will go the same way, and achieve a good result.

**Now i will switch a little bit from sales to implementation. And I would like to ask, who in your opinion are the main actors in enterprise system implementation?**
The main actors of course are analyst. Analysts in principle are connection between the technical world and business problems. Very high requirements are raised to analysts. In here there are a lot of disadvantages, but I my mind this thing must be simplified, and people must be distinguished to more business oriented and more technically oriented. Because for one person to understand the features of all business processes and technical possibilities is quite difficult. We see from our own experience, that to train a person, who could do both that and that, it must be either a person with extreme capabilities or he needs to work at least 4-5 years for him to become a really solid specialist. So anyway the person who is key in these projects is an analyst. And he participates from the creation of concept till specification of code which a programmer has to "hammer", that is to say modifications, configurations and programming. But he has to be from business vision to technical realization of the vision, I mean not only the vision, but lead to specification of this solution. So, the requirements for him are quite high.

**You now distinguished between business and technical consultants. But if we look at a business orientated person, what kind of knowledge does he need?**
How we do in our department now, we have analyst who understand the business more. Of course they need to improve more, but it is a good step. They are business consultants, and in other way I would call them business analysts. In my mind, they should go number one to project where they could clearly understand and write down the business requirements. And the actions, which could solve the business problems. Later in this process, as a second actor must be added. These are analyst, who are more related to technical solutions, who could read the actions, written down by business consultants, clearly and then, because they understand more technically what a tool does, to write a specification and give it to programmer to hammer the code.
But doing the analysis, what kind of knowledge should a person have? How should he be prepared? There exist, I think, two worlds. First thing is finance. Finance is the cash flow, and in general finance encompass almost all aspects of company's activities, everything turns around money, but him as such (*finance consultant*) is not enough. He must know the accounting, the tax policy and finance management. So that is to say, he must be a good finance person in a company. Maybe even more than that, to have more theoretical knowledge, to be like a financial consultant. And the other world is the business processes. That is different, but not at all less important world. So him (*the consultant)* must know the logic of processes, that is how, from what kind of stones or chain-pieces the whole chain of company consists. He should know, from what company earns money, which are key actions, how these can be improved, how to put them so they would work in harmony together and there wouldn't be any hazards, so the process would be manageable. For this person, I think, the requirements are much higher that for financial consultant. He (*process consultant)* must know all the processes from theoretical side, and the processes are human resource management, logistics, accounts payable and accounts receivable, project management and so on. He is a, hm, business consultant.

**And for these people working with business, do you think they need to have knowledge about methodology?**
I think yes. Definitely. Unfortunately, now there is no universal implementation methodology for IT projects, there are some specific features which have something in common. To say, ERP everyone (*vendor)* has it's own methodology. BI solutions have theirs for technical implementation. But the necessity to know inputs and outputs, these so called deliverables, what is expected from them by the next member of implementation, definitely the consultants need to have such understanding.
How do you think, does the previous experience impact the external consultant? Say successful or unsuccessful.
I think that they are also humans and the experience which is looked at through one's personality prism, it always reflects. You can't do anything about it, they are humans. An the unsuccessful experience. If a person can learn from mistakes, everything is good. If not, the can be some kind of destructivity.

**What, in your opinion, personal characteristics does this consultant, who works with implementation, need?**
In my mind, the consultant must as a small pedagogue, a lector. From one side he must be a big theorist, but able to explain what he wants. I don't speak about knowledge. He must have knowledge, and characteristics, as I say from one side he is a pedagogue. He must much more communicate with people, he must persuade them, offers some kind of solutions. In the end he must be able to extract that information from people. That is also quite difficult. But certainly he must have a characteristics of analyst, especially rigorousness to follow the methodology, filling the documentation, to write down everything, so there was an overview and understand their importance. Because one of the thing is that almost all analysts in our department responded that

their most un-pleasurable task is documentation. That is so. But the necessity of it (*documentation)* must be understood. So analyst must have these two characteristics, to be a pedagogue and analyst.

**Why is it important for external consultant do get deep understand of business processes? What are the advantages of it?**

When the system in selling process, maybe this is not necessary. When a customers needs one kilo (*kg*) of ERP and please sell it to me, there is no problem about that. But when a consultant sells a business solution, say customer buys for one million a better logistical solution for his business, say an item distribution, he pays for his items to move faster. So if a consultant doesn't go deeply, he won't solve this problem. It means that the implementation, or better to say the solution, project is failed, because it would fit to expectations and wouldn't solve the problems.

How do you think, what is the motivation of consultant when implementing enterprise systems?

Motivation is very simple. His features as I mentioned, must be as analyst and pedagogue. The pedagogue features enable a person to feel the pleasure, when he provides help. This I think is one of the main motivation. And second thing, which should motivate is that from first view, the problems are difficult puzzle of some not related facts and then the analytical skills can help person to solve these problems, to put them into a chain or system. And the motivation to find a solution is a feature of analyst. That is way I say that it is necessary to have these features.

**But what you mentioned is more an intrinsic motivation, when the work itself drivers a person? What about external motivation factors?**

Certainly there is also an external motivation. Surely, he (*consultant)* builds his name. Because he as first person with customer, if he works successfully he will become number one for the customer. This will be his trademark. The career opportunities will only get better. It can be a superb starting point to work in prestigious company as a consultant, say "I have solved such and such problems, and here are the results". This is obvious. Plus this is quite safe decision, because there are some more people in the back who do decisions. Second thing for motivational system is monetary. It can be like a success bonus. Surely such persons are not very ambitious as managers, it can be that they need a more stable wage. But in principle it is intrinsic motivation and self satisfaction, the building of good name, recognition and finally monetary motivation.

**What do you think about communication skills of such consultant?**

As I said, he must be a pedagogue. He must listen, but he must also be able to make people talk. That is every person, every position to dig down the truth, to the full overview. So certainly he must be a good orator and psychologist, so communication must be in a high level. But it is not necessary to find a quick contact quickly in comparison as a salesman needs to do. This is not necessary. Usually he a priori comes as an authoritete. And lecturers and listeners positions for the start are very good. Usually these are given to him. So lately he only has not to spoil them.

**What do you think about proactivity? Should the consultant be proactive and show initiative, pull everything himself?**

Yes. Yes, he should. It's just, he creates the solution. If he was passive, not proactive, usually that solution will be offered by customer himself and then it will be not, what a customer needs. That will be a customer's opinion, which will be documented and interpreted by business consultant. From the beginning it will look for the customer exactly what he needs, but it won't bring the result. This process must be managed and moved on the right direction. For this reason, the proactivity is necessary.

**How do you understand what is the alignment between enterprise systems and business?**
There is an tired phrase that "we work not for system, but system works for us". This is true. System must help the business circle. It it shouldn't be said that the system, say, is like this and it means that I will construct my business around it. This is a bad example. And for this some ERP solutions might be not correct, marketing trick. In my mind this is not the most correct. Maybe it will shorten some implementation process, but I will doubt that this will solve the problem and the system will be a help. So the alignment is when the whole business process is clear and defined, and where it becomes complex to a person, say, takes a lot of time or requires big rigorousness, say accounting or some large calculation, there a system is needed. Where there is a need to gather data, that is to say, a person doesn't manage to remember that, there is also a need for a system. When there is a need to quickly give some kind of evaluation, a system is also needed. But is must be only a helper in business, but not the heart.

**What helps to achieve the alignment so the system give what you say?**
A successful implementation.

**Can you distinguish what role does an external consultant play to achieve the alignment?**
This is their responsibility. Well, if the project is more complex maybe it is a part of project manager, in general to rule the process. But mainly this is the main responsibility of external consultants. They must imagine, how the solution that they offer, the tool, the instrument, will allow to solve.
If we define that short term is within the scope of implementation and long-term is a more long vision, do you think there are differences between short term and long term alignment?
This is a question of professionalism. I think, that it is possible, theoretically definitely possible to achieve alignment in short-term. Maybe it some cases it is not useful to fo that, because some human factors or weaknesses exists, a fear of change, or fear to overwork, to do a larger work for some time. Sometimes a professionalism of consultant is factor, whether they manage to persuade a customer to wait, to endure for a while, that the result will come soon. These in my mind are the key issues. But I think that customer satisfaction comes already after short term perspective, when the customer himself received a tangible result. Again depending on professionalism, it is possible to show fast benefits.

**And how do you think, does the implementation methodology help to achieve alignment?**
Yes. Firstly it cuts the implementation time. It lowers the risks that expectations will not comply with result. Secondly it makes an implementation more safe. That is to say, that if one step is failed, you can do a step back, take a look around, and move forward. If there is no methodology, you need to do 10 steps back or even start from zero. Also it reduces the risk of human factor. If the methodology is not followed every person becomes not exchangeable, the project is managed by not appropriate persons, for example the programmers. And as a methaphor they (programmers) draw a picture, which is good and unique, and at that time it fitted the interior of the house, but if the color of walls is changed, this picture becomes unneeded and unproper. This is the situation that methodology allows to mitigate these risks.

**How do you understand a knowledge gap between an external consultant and a customer?**
The knowledge gap between external consultant and a customer is about thing, that a customer is a specialist in a narrow field. It is based on his (c*ustomers)* experience. And this experience is bounded by his company's, well ok, his market boundaries. That's all. That is his field, it is very important, this experience is very important. It is necessary to hear it and understand it. But consultants, I would distinguish between business consultants and system analysts, they can adopt theoretical models. That is to look from a side and from above, more globally, to make a full overview. Because the customer is a summation of people, in which everyone sees the situation from his own point of view. It is good if a CEO is thinking and seeing more globally, but sometimes his global approach is not

enough too. So a business consultant must be able to look at everything even more globally, to make a full overview and help to adopt both theoretical solutions and be able to hear best practices from customers experience. And a system analyst, knows how to realize this in a system. Which tool and how to adopt it in this particular case. So this is the knowledge gap.

**And how do you understand an effective communication between the external consultant and business customer?**
An effective communication is understand of common goal. A clear understanding. This is primary step for both to understand what they want. And management from customer side I would distinguish the biggest problem, a challenge, not to be afraid of changes. Usually inertia does a lot (*bad*). And from consultant, it is important to fully understand expectations and to understand that problem. These are key stones.

**How do you understand what is a successful implementation?**
A successful implementation project is first of all when a customer is satisfied. And secondly the implementation, the whole project achieved its determined objectives. So project starts not from determining objectives, but the determination of objectives is included in a project. That is to say expectations fit the result.

**We spoke about knowledge gap, effective communication and successful implementation. How do you think these relate to enterprise system and business alignment?**
They have impact, of course, but I have a question why knowledge gap is bad. In my opinion knowledge gap is natural, there is no reason to fight it, this could be a waste of time. Every project is a new experience, so the knowledge gap will lower, but this shouldn't be done intentionally. And the alignment is of course, that company receives the results that it was waiting, which will help it to kick off and grow further, will help the business circle faster. So everything consists of these factors, it is important to exactly know what is desired to achieve, it is important to know that the things you wish to achieve will help and later how to control this process, that is the methodology.
And finally I have a concluding question. After we have spoken about all these alignment issues, what in your opinion is the impact of external consultant to enterprise system and business alignment?
In principle, the external consultant creates alignment. That is to say, all the trust. If the customer higher an external consultant, a solution provider, he naturally has to trust the external consultants. So external consultant is a key person, he formulates the image, the vision in general. If a customer achieves good results, it means it is good with no difference on the size of the project. The customer satisfaction comes not from that they have bought one kilo of ERP, but rather they have solved some specific business questions, which were relevant.

**Thank your opinion. All this conversation will be transcribed.**
**End of transcription of interview D.**

# Appendix 3 – Interview summary

**Interview summary A - Danas Sindaravicius**
Six years IT experience. Primary focus on Microsoft Navision, and project leading. Current product is Microsoft Dynamics AX.
He identifies, large companies, and their stakeholders (management, the board, administration, directors and executives). The main players from stakeholders are CEO, Finance director and IT manager.

External consultant needs to understand the business area, and identify their problem (referred to as costumer pain in the interview). And this is important to be positive and help them identify the problem. A consultant needs to have is a minimal technical knowledge about the product, a general macro-economical knowledge, knowledge of what happens day (what other companies are doing, new products etc). Communication skills and be able to listen. Be aware of his surroundings. Methodology knowledge is required. They systemize activities, collect and systemize information. He also thinks the methodologies should be revised too.

The external consultant should be solidity, maturity, awareness of business etiquette, charisma, communicative, proactive. Trust between the client and the consultant. The experience of the consultant are important factors. The consultants confidence and way to believe in himself is also important. Business awareness because he needs to be able to distinguish, whom the product is appropriate and whom not and also know what the client needs.

If the consultant doesn't have these skills the budget might overdue, benefits not measured = collapse of project and dissatisfaction for the costumer. The implementation might not cover their needs and an unsuccessful project gives bad reputation and the company might looser business.

Self (short term)-motivation – gets strengthen by feedback, wage, bonus. Long term motivation – professional development, project finishing and also to see the costumer grow and do good since you know you helped them. Knowledge and understanding about the product business and market. Personal wish, motivation are also crucial.

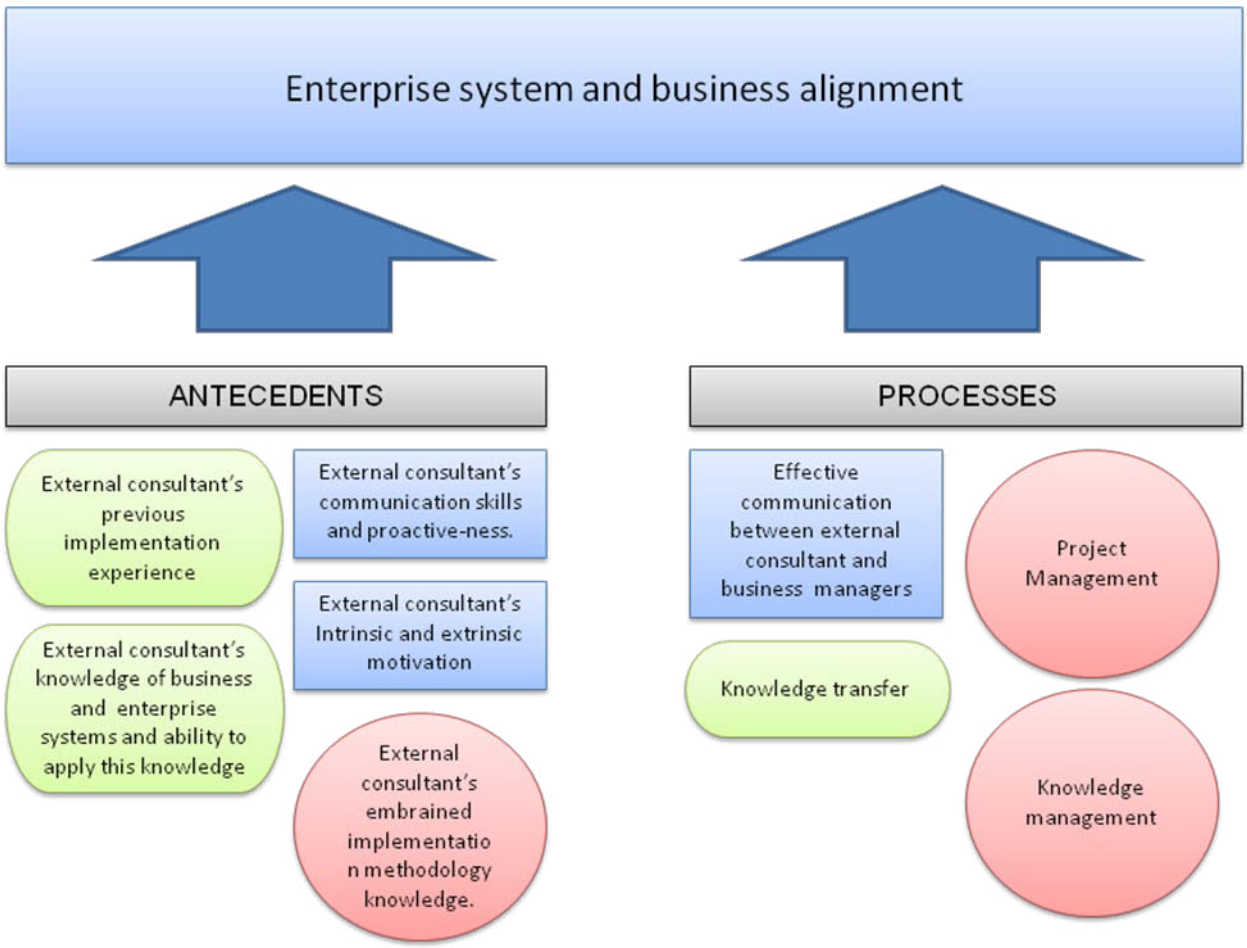
Alignment should be measured, harmony between business and ES. Agrees with our definition of alignment. Can difference between short and long term alignment. Thinks that alignment is a task for the consultant since the consultant must know the area of activity, have insight, evaluate the costumer etc. Methodology matters while talking about alignment. The methodology as an impact to control processes and to systemize data, state further steps, milestones. But negative is that some costumers are not used to work this way which makes it harder.

Raises the important of knowledge transfer. If you see that your customers has difficulties to understand the knowledge, you have to find a way to present them in other format, so he (*the customer)* wouldn't have any stress, and won't stop.

The external consultant impact time, technology, cost, costumer satisfaction, support.

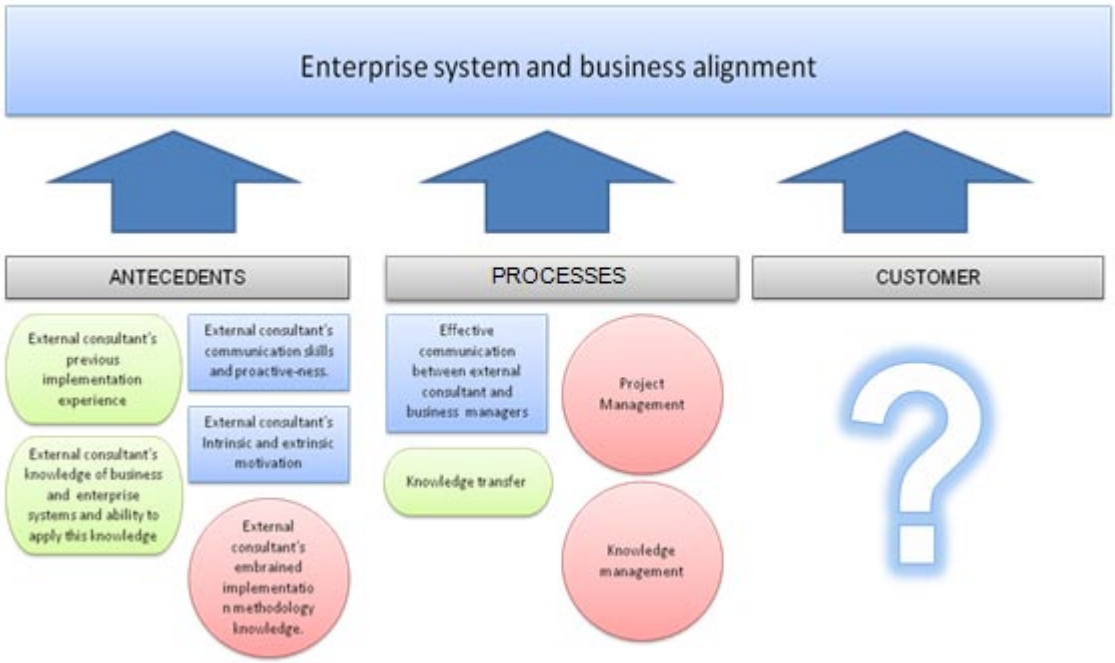
ES alignment and business should live in harmony, they can't live without each other. And the consultant part is like a spider in the web, he is the connection between all other parts. Costumers, business, specifications, areas, ERP product, technologies, professionalism.

# Appendix 4 – Possible further modification of framework




**Developed framework from the reversed framework in the discussion**
This is a possible modification of our framework. Since we didn't research how the different elements: *Antecedents* and *Implementation processes* influenced each other, we took away the internal arrows and created two big arrows. By this we mean that the enterprise system and business alignment is influenced by the *Antecedents* and the *Implementation process*. But which factors that influence more than others are not yet discovered.

# Appendix 5 – Framework with possible customer relation




**Framework with customer element**

This is one suggestion to a possible framework development in the future. This framework is reversed and now contains elements of, *Antecedents, Implementation process* and the newly added *Customer*. During our research our empirical result and the literature review showed that the customers also had an impact on enterprise system and business alignment. What factors that currently affect this new element are not yet discovered by us. This framework is only a suggestion on what further research that could be needed in this area. All elements in this framework should also be reviewed and researched about their alone impact of an enterprise system. A suggestion by us is to create some type of grading of these elements.

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