2013•2014
FACULTY OF BUSINESS ECONOMICS
Master of Management

Master's thesis
Maintaining knowledge throughout outsourcing IT projects

Promotor :
Prof. dr. Benoit DEPAIRE

Quinten IJsbrandy
Thesis presented in fulfillment of the requirements for the degree of Master of Management

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KNOWLEDGE IN ACTION

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Preface

I hereby present my thesis “Maintaining knowledge throughout outsourcing IT projects”, an investigation into the success factors of knowledge retention within outsourcing IT activities. This thesis has been written as a final assignment with the prospect to complete the master “Masters of Management: Management Information Systems” at the University of Hasselt.

I could not have finalized this thesis without the help of many people and I hereby would like to thank them for all their support. First, I want to thank my supervisor Professor Benoit Depaire for the extensive comments and advice throughout the process of writing my thesis. I would also like to thank the interviewees for the free time they have taken in order to participate to my case studies..

I would also like to thank my girlfriend and family for the advice they provided me and the grammar checking they carried out.. I would especially like to thank my parents for finding experienced people in the field of IT outsourcing to conduct my interviews.

Quinten IJsbrandy

Executive Summary

Many organizations of different sizes are increasingly outsourcing their IT functions. Despite the opportunities and the many benefits, not many companies pay enough attention to knowledge retention within IT outsourcing. IT is becoming increasingly complex, which means that companies need to share sensitive knowledge with their supplier to guaranty the success of the outsourced project, thereby taking the risk to fail to retain the latter on the one hand. Nevertheless, losing this crucial knowledge can be prevented through a strategic way of sharing and transferring knowledge to and from the supplier. On the other hand it is also important to take the opportunity to retain the knowledge that will be shared by the supplier.

This study defines the success factors that play an important role in the retention of knowledge within IT outsourcing and the main problem statement is as follows: What are the critical success factors enabling the retention of knowledge when outsourcing IT activities?

The literature

In this study, IT outsourcing is defined as “the transfer of property or decision rights in varying degrees over the IT infrastructure by a user organization to an external organization”. Important motivations for many companies to outsource IT are cost reduction, focusing on core competencies and access to professional expertise. In contrast, there are plenty of risks that need to be analyzed carefully before making the decision to outsource IT activities.

Knowledge can be defined as a mix of contextual information, experiences, rules, and values. It is richer and deeper than information and more valuable because someone has thought deeply about that information and added his or her own unique experience, judgment, and wisdom to it. A distinction can be made between two types of knowledge, namely explicit knowledge and tacit knowledge. Explicit knowledge is knowledge that is most tangible and transferable while tacit knowledge is much more difficult to grasp and to put in to words. It is important for every company to retain both types of knowledge. Knowledge Retention is about focusing on the critical knowledge that is at risk of loss, prioritizing what is at risk based upon potential knowledge gaps and their impact upon overall organizational performance, and then developing actionable plans to retain that knowledge. There are two ways to maintain knowledge namely by managing and facilitating knowledge. To accomplish this effectively a good relationship needs to be built with the supplier when outsource IT activities, both the manager of the outsourcer as well as the supplier need to eliminate barriers that prevent individuals to share, transfer and retain knowledge at the individual and organizational level.

Based on theoretical research seven critical success factors have been formulated and will indicate how knowledge retention associated with IT outsourcing can be best achieved. The following success factors have been formulated:

- Top management support and awareness
- Employees qualification for sharing knowledge
- Efficient knowledge transfer
- Organizational culture
- Proper communication and mutual trust
- Avoid threatened litigation in contract termination
- A strategic knowledge-based decision

Practical view

The theoretical success factors are transformed into relevant questions for the questionnaire. Based on the results of the interviews, actual factors that play an important role in retaining knowledge within outsourced projects will be determined. The ultimate goal of the practical research is to both investigate the critical success factors that impact knowledge retention in IT outsourcing in practice as well as compare the latter with the corresponding theory. The practical research consists of two parts that are conducted in an interview.

The investigation has shown that it is remarkable that the companies of the interviewees do not carefully consider the value of the knowledge they have. Furthermore, the retention of knowledge is of little priority both during the decision period and the entire outsourcing phase. Concerning the success factors for knowledge retention in IT outsourcing, the examples of practice lead to the conclusion that all theoretical success factors have a positive effect on the actual outsourced IT operations. Finally, the directors from the IT service provider and from Administrative Services Center at the university emphasized that trust is a very important part for optimal knowledge retention. This falls under the success factor "Proper communication and mutual trust". The employees should be properly informed about the several IT outsourcing situations and to which degree they will be implicated with the latter. If the employees have some degree of clarity about what will happen, knowledge will ultimately be retained. It is also extremely important to create confidence with the supplier.

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1. Introduction

Outsourcing business activities has become commonplace throughout the past fifteen years. Driven by cost savings and focus on core activities, almost all big companies nowadays outsource parts of their original business to specialized companies. It mainly concerns activities that are subordinate to the primary business. Thus, facility services are often outsourced to third parties that are able to provide these services at a much lower cost through standardization and scale.

As a matter of fact, companies often outsource their ICT services. A recent survey shows that 76 % of the participating companies currently outsource ICT functions and this number is expected to increase by 5 % in the future. Figure 1.1 gives an overview of the different functions that companies outsource in 2012 (Deloitte, 2012). Indeed, ICT is suitable for such an approach because of the supportive role that it has traditionally played in the implementation of business processes. Companies are able to focus on their core business and reduce the ICT activity costs by using the specific ICT capabilities of another company. In the case of an ICT outsourcing company, lower costs, standardization and economies of scale also apply (Ernst & Young, 2011).

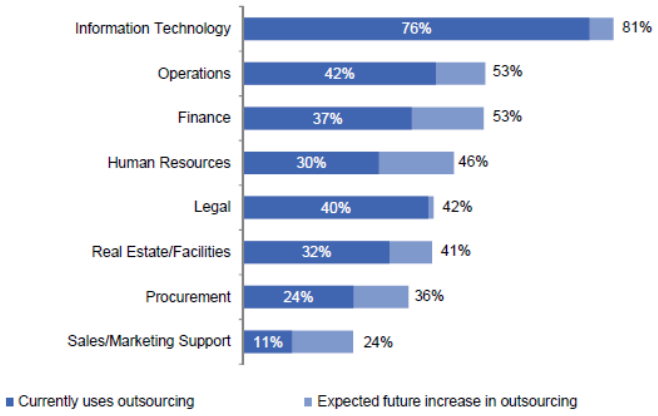


Figure 1.1: companies current and future outsourcing plan (Deloitte, 2012)

In the past few decades, the role of ICT increasingly shifted from an administrative support to a precondition for carrying out the business activities such that it became a primary business function. As a consequence, doing business is no longer feasible without ICT (Gonzalez, R. 2010). However, even though outsourcing this function seems to be a perfect solution to enable

companies to focus on other important activities as well as benefit from experts' know-how, it is very complex to execute in practice. For instance, issues could consist of limited knowledge sharing with an external contractor, loss and retention of valuable IT knowledge, loss of control, dependency on IT and suppliers, cultural differences both internally and externally, too high expectations of the outsourcing organization and poor procurement specifications (Noor, H.A. 2007).

The fact that many companies need ICT in order to successfully conduct their primary activities explains that ICT projects are getting more complex and more integrated into their core values. As a result, it is important for companies that outsource their ICT project to share enough knowledge with the external contractor in order to work effectively (Jae-Nam L. 2001). A research shows that there is significant positive correlation between knowledge sharing and IT outsourcing success amongst Malaysian organizations. It also concludes that knowledge sharing is an important variable for outsourcing success. This research supports a previous study that was conducted in 2001 and 2003 to investigate the widely belief that knowledge sharing is one of the predictors for IT outsourcing success (Zuraini I. 2005). However, outsourcing does not come without risks such as knowledge loss and transfer. For instance, when outsourced personnel leave, there is a possibility that they take valuable knowledge with them. Additionally it could be that a large proportion of new knowledge remains in the hand of the provider and is not transferred to the customer company. It is an even bigger issue whenever the company has no control over the outsourced project and cannot retain the related knowledge, as it may lose its capacity to stay up to date with the technological breakthroughs. A research over 329 large Spanish firms shows that the loss of critical skills and competences is an important outsourcing risk. Figure 1.2 gives an overview of the most common risks of outsourcing with the loss of critical skills and competence being in the top 4.(Gonzalez, R. 2010)

Not important at all 1 2 3 4 5 6 7 Very important

	Mean	Median	Mode
Provider staff qualification	6.56	7	7
The provider does not comply with the contract	6.27	7	7
An excessive dependence on the provider	5.45	6	6
Loss of critical skills and competences	4.93	5	6
Inability to adapt to new technologies	4.67	5	5
Hidden costs in the contract	4.52	5	6
Unclear cost-benefit relationship	4.47	5	5
Security issues	4.08	4	4
Irreversibility of the outsourcing decision	3.68	3	2
Staff issues	2.55	2	2
Possible IS staff opposition	2.48	1	1

Figure 1.2: Outsourcing Risks (Gonzalez, R. 2010)

Some research has been conducted concerning the advantages and disadvantages of outsourcing but the factors concerning loss and retention of valuable IT knowledge as well as loss of control have not been fully exploited yet. Therefore, questions such as “what actions should companies undertake when they realize that they don’t control knowledge transfer anymore?” or “Which activities will enable a company to prevent such outsourcing management problems to happen?” still remain.

1.1 Problem statement

This thesis will report on a study of the role of knowledge retention in IT outsourcing. In order to examine the question of how organizations can avoid ending up in a situation where they lose knowledge, the following problem statement is formulated:

What are the critical success factors enabling the retention of knowledge when outsourcing IT activities?

The problem statement will be further elaborated by dividing the research into sub-questions that will support its investigation.

Sub question 1

This thesis will focus on the IT outsourcing activities. It is therefore relevant to understand how IT outsourcing can be defined. Furthermore, the various forms of IT outsourcing will be described as well as the associated rationales. To accomplish this understanding, the following sub question is formulated:

How can IT outsourcing be defined and what are the motivations and risks when using it?

Sub question 2

Furthermore, it is crucial to establish common grounds with regard to the definition of knowledge and related subjects such as explicit & implicit knowledge, knowledge management, knowledge retention, knowledge loss and transfer of knowledge. Knowledge is

a common, but vague, concept. The next research question will help to determine how knowledge will be approached in this study. To this end, a number of theoretical perspectives on knowledge are reviewed. Consequently, the formulation of the second sub-question is as follows:

Which knowledge perspective(s) should be adopted when implementing IT outsourcing?

Sub question 3

First, the success factors for retaining knowledge when outsourcing IT should actually be determined by examining related studies and papers in order for the latter to be tested through a practical research?

What success factors impacting knowledge retention in IT outsourcing are found in the literature?

1.2 Practice-oriented research questions

The practical research questions, 4 and 5, will be addressed in a case study. This practical research will consider what factors are actually present and what factors will contribute to the knowledge loss and retention when a company is outsourcing IT projects.

Sub question 4

Before inspecting how the factors within the organization influence IT outsourcing, it should be clear how knowledge retention is applied in practice. This gives rise to the following question:

In practice, how is knowledge retention in IT outsourcing dealt with?

Sub question 5

Finally some case studies are conducted in order to compare the theoretical success factor in practice. Therefore as a result the following sub question is formulated

Are the critical success factors impacting knowledge retention found in theory supported in practice?

1.3 Scope

The research area is defined by knowledge retention in IT outsourcing. Even though that risks in the process of outsourcing and knowledge transfer as well as knowledge loss may arise at the external supplier, examining these consequences falls beyond the scope of this thesis.

IT will be defined in this thesis as IP/IT services: ICT resources, IP (information provision) services and IT management processes e.g. functional and technical management. The scope of the thesis focuses on outsourcing IT activities, thus, for instance, not outsourcing maintenance of a building. The goal is to research IT outsourcing in different kinds of companies, both public and private, primarily in Europe.

The problem area is knowledge, as a synonym for skills/expertise, and is visible in organizations through people, processes and systems. It involves knowledge of business functions and business processes (controlling, primary and supporting processes), business intelligence (knowledge of the organization and environment) and expertise (IT knowledge, specialized knowledge, customer knowledge, market knowledge and project knowledge).

The expertise pertaining to outsourcing itself is outside the scope of this research. This means that this thesis will not fully focus on this element even though a company's experience with outsourcing should still be taken into account. Indeed, this variable might impact the outcome of whether companies can retain knowledge when outsourcing IT activities.

Outsourcing involves at least two active parties, the outsourcer and one or more external vendors. The outsourcer is the organization that outsources, the external vendor is the organization that gives professional services. This thesis is based on the outsourcer's point of view.

1.4 Research methodology

The research to achieve the objectives is composed of a literature review and field research including conducted depth interviews. A characteristic of a literature study is to use existing material and highlight the important findings as well as reviewing this material in order to present it under different perspectives. A case study comprises a selective sample studied in a small number of research units, through which open observation is conducted and the resulting qualitative data collected. The literature study is based on existing literature by exploring the factors that affect the control of outsourced projects associated with the retention and loss of knowledge. The results of the literature review are converted into a questionnaire. The questionnaire serves as a starting point for the case study. The purpose of the latter is to test the questionnaire and identify the factors that, in practice, contribute to the successful control of an outsourced process as well as the avoidance of knowledge loss and retention.

Literature research

Literature research was primarily done through the use of Hasselt University's online scientific databases. The database of Maastricht University was used whenever articles could not be found or were not accessible through the Uhasselt account. Google Scholar and EBSCOhost are the main databases used for this research. General databases such as Google and Bing are also available for general public articles. The several search subjects that have been used to find articles valuable to the research are: "Knowledge retention", "Outsource control" , "Outsource Knowledge" , "Knowledge loss" , "outsourcing framework" , "Outsourcing leakage" , "Knowledge sharing", "Outsourcing" , "knowledge". Papers have also been found using the references within the articles obtained through the above-mentioned method, as it gave a broader insight into the existing literature. Lastly, study books from the Master of Management Information Systems and Google Books for online reading were useful to find information related to this thesis.

Practical research

In-depth interviews will be conducted to explore the theoretical study in the field. Success and failure factors focused on control based on knowledge retention and loss questions will emerge throughout the interviews.

These questions serve as the basis for the practical research. Yin K. (2009) distinguished three basic forms of practical research: the experiment, the survey and case studies.
An experimental study attempts to find the impact of independent variables on a dependent variable, by creating a setting to control the latter as well as explore cause-and-effect relationships. The survey is characterized by research using questionnaires. The latter will be submitted to a narrowly defined group of individuals who have to answer identical questions. His method is characterized by a selective sampling carried out at a limited number of research units, which allows for high-quality data.

A case study focuses on a limited number of research units and therefore is chosen from a practical point of view. Important points that have has been extensively described by Yin K. (2009) are:

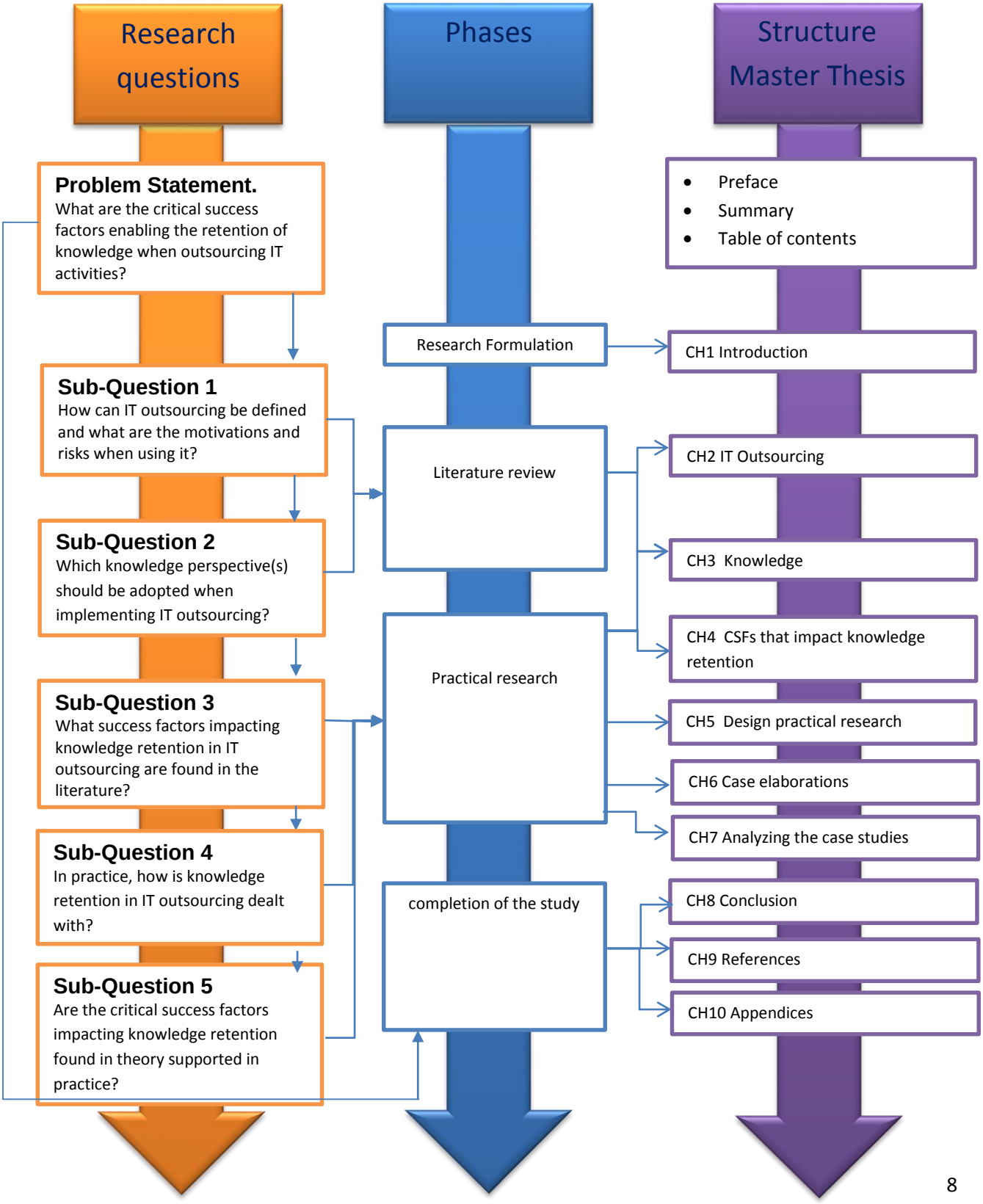
- A how or why question about a contemporary set of events over which the investigator has little or no control should be asked
- A contemporary phenomena should be investigated within its real life context, especially when the boundaries between phenomenon and context are not clearly defined.

Viewed within this practical research the previous observations would be formulated as follows:

- This research focuses on “how” organizations keep their outsourced projects in control and “how” several factors influence the retention and loss of knowledge with the latter.
- The researcher is independent and has no involvement in the outsourcing relationship. In addition, the researcher does not affect the environment.
- The subject of the research is mainly contemporary.

1.5 Concept structure of research

Based on the above section, a concept structure for the research can be established. The latter gives an overview of the different phases of the thesis and the related chapters.



2. IT Outsourcing

In recent studies, there has been much interest in the subjects of IT outsourcing and knowledge independently of one another. However, very little is known when it comes to IT outsourcing in combination with knowledge retention. In this research, IT is defined by information provision (IP), ICT resources and IT management processes. In order to understand the meanings of the various concepts that will be addressed in this thesis, literature specifically related to the latter will be reviewed. This chapter will review IT outsourcing. The following sub-question will be answered in this chapter:

How can IT outsourcing be defined and what are the motivations and risks when using it?

2.1 Definition IT Outsourcing

Several concepts of IT outsourcing can be found in the literature. The same applies to the definition of 'knowledge'. Before considering knowledge retention with IT-outsourcing and the situations that could affect it, chapter two will first explain what IT outsourcing is. To determine which definition will be used in this study, a variety of definitions will be compared.

Kern (2002) defines IT outsourcing as the practice of contracting, for mutual benefit and exchange, people and/or activities to one or more third parties contractually charged with the provision of some or all of the organization's IT functions for an agreed payment over and pre-arrange period of time. Barthélemy (2005) keeps the definition simple and short by stating that IT outsourcing is the practice of turning over all or part of an organization's IT to an outside vendor. Fink & Shoeib (2003) interpret outsourcing as "the act of subcontracting all or parts of the IT function to an external vendor". Hussey and Jenster (2003) formulate outsourcing as the process of shifting tasks and services previously performed in-house to outside vendors. Delen (2005) describes IT outsourcing as the transfer of certain business processes including the related assets and employees to an external service and, thereafter, receiving IT services of that external provider for a certain number of years on the basis of these processes with an obligation of result.

The following interpretation of IT outsourcing is thus based on a comparison of the above definitions. Kern (2002), Fink & Shoeib (2003), Barthélemy (2005) and delen (2005) fundamentally indicated that IT outsourcing only exists when IT activities are moved from the already existing IT department to an external supplier. However, in practice, situations occur in which activities, that previously were not performed by the company or where performed by another supplier, are outsourced. This assumption is not made in the definition of Hussey and Jenster (2003). Indeed, only the execution of activities by external suppliers is mentioned, it does not matter if these activities were previously carried out by any other company.

In contrast with the other definitions, Hussey and Jenster (2003) define IT outsourcing by taking into account the possibility that more than one supplier can perform the outsourced IT activities, thus multiple suppliers are involved. In comparison, the definition from Barthélemy (2005) is distinct from the rest because this author does not specify at all a number of suppliers with regard to outsourcing.

According to Delen (2005) and Barthélemy (2005), outsourcing consists of transferring people and resources to the new supplier. Delen (2005) explained that if this is not the case, out-tasking occurs. Out-tasking allows businesses to turn over specific IT activities to another organization, rather than the entire IT function. According to Kern (2002), there is outsourcing when activities carried out by the supplier and it is possible that both people and resources will also be outsourced. In their definition, Fink & Shoeib (2003) omit the transfer of people and resources.

This research will use the definition of Barthélemy (2005) because it takes on a more general view of outsourcing IT activities and is less limited with regard to the amount of involving companies. Barthélemy also mentions important points to take into consideration such as the varying size of IT outsourcing projects and the possibility to outsource personnel as well as equipment. The definition is as follows:

“the transfer of property or decision rights in varying degrees over the IT infrastructure by a user organization to an external organization”

2.2 Different types of outsourcing

Besides the fact that there are different definitions of the concept of outsourcing, there are also different types of outsourcing. Two different ways to outsource, namely onshore (inshore) and offshore, are introduced. Furthermore, offshoring can be either relatively nearby (nearshoring) or in a distant land (farshoring) (Gonzalez 2006). A research from HfS analyses a sample of 466 US based organizations showing a slow increase in offshore/nearshore software development. Figure 2.1 shows that in 2008 almost three-quarters of ERP software development were performed onshore. This proportion decreased to 65% in 2011, mainly because of the cheap labor costs in foreign countries.

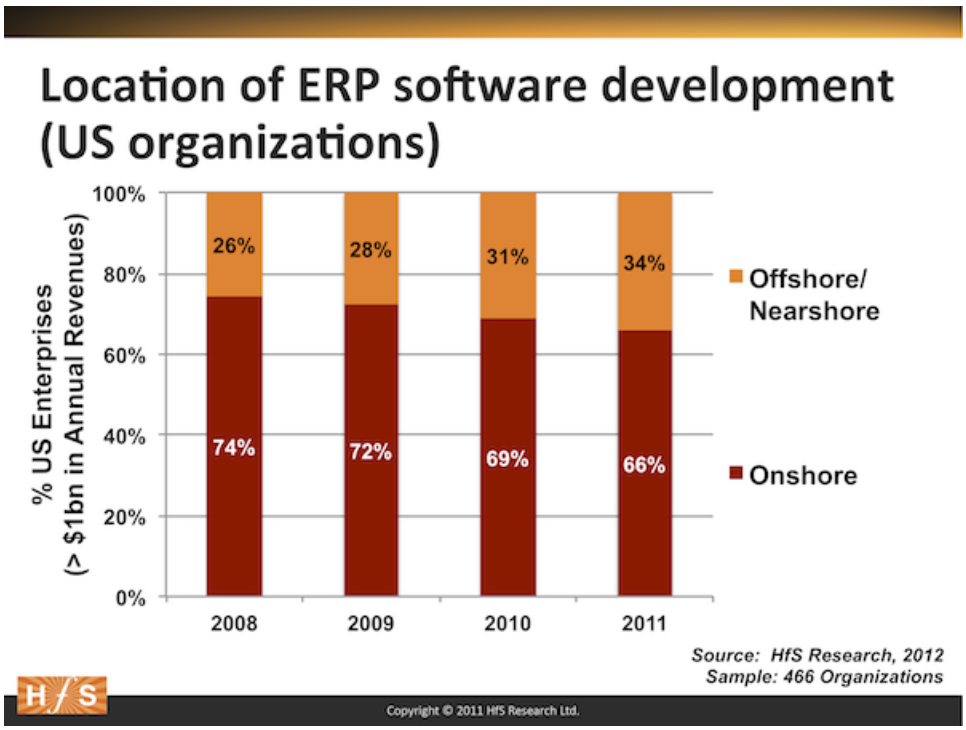


Figure 2.1: Location of ERP software development (US organizations), HfS Research

Onshore

This form of outsourcing represents a situation where a company contracts an outsourcing supplier located in the same country. This can have great advantages such as none or less cultural differences between the companies and probably using the same language for communication purposes. Additionally, reduced distance to the location is an advantage when outsourcing onshore. There can be frequent face-to-face meetings when a company is situated a few miles away from the supplier. Time zones are closely related to the matter of distance

and if the time zones are similar, it is relatively simple to arrange a conference call. (NeoIT 2003)

Offshore

An certain popular belief exist that offshoring is outsourcing but that statement is not completely correct. Offshoring means that tasks will be moved to another country or so-called 'foreign country'. A supplier does not necessarily perform the tasks. For example, if a company decides to move some activities to Pakistan, it then falls under the term offshoring and it does not necessarily mean that another external firm is involved in the process. For example a company can also offshore to a foreign branch of their own company. Therefore, offshoring and outsourcing are two distinct actions such that one does not always involve the other, even if they can also be combined as shown in figure 2.2. Offshoring is certainly not destined only to low-wage countries. The trend in recent years is feeding this misguidance as more and more companies are moving jobs to low-wage countries (Gonzalez, 2006).

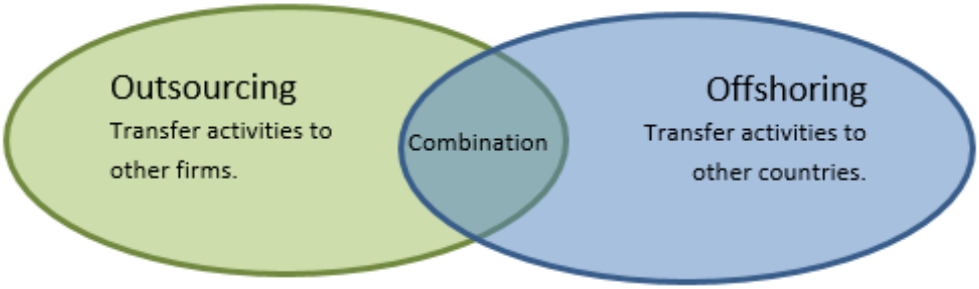


Figure 2.2: Outsourcing/Offshoring

2.3 Drivers of outsource IT

There are many possible reasons why companies choose to outsource IT activities. Lacity (2009) made a review of IT outsourcing literature in the past eighteen years. They summarized 191 relevant IT outsourcing articles into six key information technology outsourcing topics. The researchers came to a conclusion that the main driver of outsourcing IT is cost reduction. Although cost reduction is identified by far as the common motive, strategic intents such as improving business performance and generating new revenue are also important. Realizing these strategic intents is difficult and requires an increasing demand of managerial attention. A number of motivations have been listed in table 2.1.

Motivation for outsourcing	Description	Number of articles
Cost reduction	A client organization's need or desire to use outsourcing to reduce or control IS costs	39
Focus on core capabilities	A client organization's desire or need to outsource in order to focus on its core capabilities	24
Access to expertise/skills	A client organization's desire or need to access supplier(s) skills/expertise	18
Improve business/process performance	A client organization's desire or need to engage a supplier to help improve a client's business, processes, or capabilities	17
Technical reasons	A client organization's desire or need to gain access to leading edge technology through outsourcing	10
Flexibility	The ability to adapt to change	7
Political reasons	A client stakeholder's desire or need to use an outsourcing decision to promote personal agendas such as eliminating a burdensome function, enhancing their career, or maximizing personal financial benefits	5
Change catalyst	A client organization's desire or need to use outsourcing to bring about large scale changes in the organization	4
Commercial exploitation	A client organization's desire or need to partner with a supplier to commercially exploit existing client assets or form a new enterprise	3
Scalability	A client organization's desire or need to outsource to be able to scale the volume of IS services based on demand	3
Access to global markets	A client organization's desire or need to gain access to global markets by outsourcing to suppliers in those markets	2
Alignment of IS and business strategy	The fit or congruence between a firm's business strategy (conceptualized as defenders, prospectors, analyzers) and its outsourcing strategy (e.g., arm's length, independent, and embedded)	2
Cost predictability	A client organization's desire or need to use outsourcing to better predict IS costs	2
Headcount reduction	A client organization's need or desire to use outsourcing to reduce the number of staff	2
Need to generate cash	A client organization's desire or need to generate cash through the sale of IT assets to the supplier	2
Rapid delivery	A client organization's desire or need to engage in outsourcing in order to speedup project delivery	2
Innovation	A client organization's desire or need to use outsourcing as an engine for innovation	1
Total articles		*143*

Table 2.1: Motivations for IT outsourcing (Lacity, 2009)

Smith, Mitra and Narashiman (1998); Embleton and wright (1998); Mason (1997); Delen (2005) and Willcocks (1994) describe that there are several important motivations regarding the outsourcing of IT activities. These motivations could basically be summarized:

Focusing on core competencies is a known common reason for outsourcing. This argument does not always stand, especially in a situation where IT for all business aspects is crucial. Companies should estimate the importance of the true value of IT and build up a certain degree of competence, whether IT activities will be outsourced or not.

Organizations can also outsource IT to gain access to valuable knowledge. The reason is that, nowadays, economic environments are becoming more dynamic. It is important to have access to specialized skills quickly and at the lowest price. Furthermore, IT skills are scarce and specialized external suppliers can attract these skills easily (Scott, 2012). Firms can respond to these needs through IT Outsourcing.

A lack of time to accomplish their own IT activities is also a strategic reason why companies choose to outsource IT. Developing an application could be done quickly when the external provider has the right people and experience. It may take a long time to build IT projects in case the organization does not have the necessary expertise or experience.

In an attempt to achieve economies of scale, outsourcing IT activities could be the right option and ultimately lead to reduction in costs. The motive to reduce operating costs for many organizations is the main reason for outsourcing IT activities.

Experienced suppliers will use their knowledge and experience to improve the quality of the outsourced IT activities, resulting in benefits such as the output quality of the end products or freeing up your internal staff for other roles within the company, thereby increasing the efficiency. Furthermore, the contracted suppliers are capable to provide a good cost estimation of IT projects. Costs are more manageable when they are predicted in a more precise way.

Outsourcing IT can be used to respond to rapid changes in for instance the consumer market. A company can adapt faster and more efficiently by using variable deployment of capacity or by temporarily using experienced labor.

2.4 Risks and pitfalls of IT outsourcing

For some companies, IT outsourcing can be a risky procedure. There are several sorts of unwanted situations that can occur and which eventually disallow to achieve the planned goal. Situations such as outsourced IT activities projects that have been delayed or will never be finished because of hidden costs or weak support of the IT activities from management. Aubert (1998) indicates that the term risk refers to two different concepts. First, risk takes place when, for example, problems in the performance of a system that has been outsourced arise or when hidden costs, leading the project to fail, appear. Second, risks are the factors that lead to a negative outcome. For instance, the continuous changes in the workflow of the employees or the lack of upper management involvement.

Risk management is a strategic approach to oversee the probability on risks and impact of the occurrence of risks. This approach consists of analyzing risk factors that could result in a loss or damage to the company, identifying and select control measures and the implementation of the management measures and continuous evaluation of this process.
Companies use risk management to identify risks that are involved in a particular action. If a company does not manage risk properly, visions and strategies of the company cannot be fulfilled.

Several risks are identified by several auteurs. This thesis used the studies from Prahalad and Hamel, 1990; Aubert, 1997; Lacity & Hirschheim, 1993; Cross, 1995; Sabherwal, 2003 to describe these important and relevant risks associated with IT outsourcing. To summarize these risks, Earl's research will be used. His research is based on eleven risks of outsourcing (Earl, 1996):

1. Weak management on IT activities

Companies tend to pick a supplier without thinking about the impact it has on the management of daily business. When companies that outsource IT activities and think it is an easy task, they are soon startled back to the complex problems and impact of IT outsourcing on the entire organization. Lack of experience of the management contributes to such the occurrence of such situations. It is therefore useful to benefit from a thorough analysis of the company's core business, the impact of the new activities on the company and how the IT activities should be integrated. (Earl, 1996)

2. Unexperienced labor from supplier

One of the reasons to outsource is the contributed expertise from the external supplier. Earl states that they are responsible for the generation of additional knowledge, even though there are a few caveats. The staff of the external supplier probably does not have the required domain knowledge when a special and unique company process is outsourced. (Earl, 1996; Lacity & Hirschheim, 1993)

3. Uncertainty about future business

Organizations operate with uncertainty about the future. This makes it difficult for organizations to predict changes in the business that could result in making wrong choices regarding the IT outsourcing projects. (Earl, 1996)

4. IT Skills are outdated

When a company chooses its outsourcing supplier, there is always a part of uncertainty whether the skills of the supplier are up to date. The company has the possibility to agree with the supplier for several updates in the technology system for a certain time period. However, if the supplier cannot provide these required skills, an alternative supplier needs to be found. Nevertheless these alternative suppliers are rare, especially in the case of a big investment. (Earl, 1996; Sabherwal, 2003)

5. Continuing uncertainty

Uncertainty is closely related to information technology. Companies cannot, or not easily, specify their needs in advance. The company's needs are changing rapidly, new technology is risky and implementation of IT is rarely without a hitch. Companies should avoid outsourcing contracts that are set in concrete. As a food company described, "As flexibility is required from the supplier, it's a characteristic that needs to be paid for". (Earl, 1996)

6. Hidden costs

Companies could compare the outsourced project costs with the current costs of building the technology. However they do not exactly know what the possible cost savings in the future would be. Earl mentioned two tendencies. First, organizations underestimate the set-up costs of the outsourced projects, such as the cost for transferring or fire employees and relocation costs. Second, the underestimation of management cost and the outsourcing relationship emerge. (Earl, 1996; Cross, 1995)

7. Lack of Organizational learning

If a firm develops its own IT capabilities, it learns by experimenting in-house. Firms that outsource IT may not well understand these technologies and thus limit their learning curve. Companies that outsource risk losing internal IT skills or developing the wrong skills. (Earl, 1996 Lacity & Hirschheim, 1993)

8. Organizations lose innovative capacity

Innovations are created in a separate area, with an organic organizational structure and experimental and entrepreneurial competences. There is no guarantee that the innovative capacity is as good if processes are outsourced. Outsourcing can thus lead to a reduction in the innovative capacity of the outsourcing organization. (Earl, 1996 Lacity & Hirschheim, 1993)

9. Dangers of an eternal triangle

Companies often want the vendors to understand the company's business and crucial values. This can result in reskilling the vendors to enable a better relationship with the supplier and better understand the company's business issues. This may cause the company to stand still in their IT evolution. (Earl, 1996; Aubert, 1997)

10. Technological indivisibility

A good example of technology indivisibility is data centers and the responsibility of vendors. Which vendor could the company blame when something goes terribly wrong and who is going to solve this problem? The current information systems "are increasingly integrated or interconnected. This problem can occur at the interface of responsibility between different vendors or between the vendor's domains and the customers domain". (Earl, 1996; Lacity & Hirschheim, 1993)

11. Fuzzy focus

Earl states that companies that outsource IT concentrate on the how, not on the what. Suppliers are not so able to implement innovative ideas. It is not the task of the supplier to invent new applications, while the client is in need for that. (Earl, 1996; Prahalad and Hamel, 1990)

2.5 Summary IT Outsourcing

The purpose of this chapter was to gain more insight into research in the field of IT Outsourcing. IT Outsourcing is defined as the transfer of property or decision rights in varying degrees over the IT infrastructure by a user organization to an external organization. Organizations are increasingly careful when IT activities are carried out in-house and about which IT activities are outsourced. Usually, this tradeoff is based on the core competencies of the organization. By outsourcing IT activities that do not belong to the core competencies of an organization, advantages such as economies of scale can be offered by the vendor.

There are two different ways to outsource, onshore (inshore) and offshore. Furthermore, offshoring can be either relatively proximate (nearshoring) or in a distant land (farshoring). Onshoring represents a situation where a company contracts an outsourcing supplier located in the same country. In comparison with offshoring, onshoring has the advantage of less cultural differences between the companies and shorter distance between locations. Additionally, time zones are closely related to the matter of distance. Offshoring means that tasks will be moved to another country or so-called 'foreign country'.

There are many different reasons why organizations choose to outsource IT. Although cost reduction is identified as by far the common motive, strategic intents are also important.

IT outsourcing is not without risks. There are several sorts of unforeseen situations that can occur and which eventually disallow to achieve the planned objectives. Risk management is a systematic approach to manage the probability on risks and the impact of the occurrence of risks. This approach consists of identifying and analyzing risk factors.

3. Knowledge

A number of topics, namely knowledge, knowledge retention" and knowledge management are explored, using scientific literature and professional publications. The following sub-question will be answered in this chapter:

Which knowledge perspective(s) should be adopted when implementing IT outsourcing?

3.1 Definition of knowledge

Everyone has a certain idea of what knowledge is and how knowledge is used in practice. That does not mean that there is a generally accepted definition of knowledge. On the contrary, there are many different definitions of the concept of knowledge in circulation. Just like for IT outsourcing, different concepts have been found in the literature and will be compared. Based on these comparisons the best fitted definition will be used throughout this research.

Pearlson & Saunders (2009) interpret knowledge as a combination of contextual information, experiences, rules, and values. Knowledge is more than only information, it goes further and is richer. Knowledge is more valuable when someone has thought deeply about some specific information and added their own unique experience, perception and understanding to it. Stam (2004) uses a similar definition as Pearlson & Saunders (2009) but adds an active dimension to it by stating that knowledge is an indication of experience and skills that people and organizations act effectively themselves. Knowledge is also inextricably linked to people, because of its personal nature. Polanyi (1966) split knowledge on the one side into an experiential component, implicit knowledge, which is "complex, abstract knowledge that is completely focused on the individual and hard to formalize, communicate and introspective in nature". On the other side, knowledge also consists of data and information, which form explicit knowledge.

Terms like "information", "know", "learn", "analyze" and "experiences" are regularly returning in the various definitions but many of these concepts are vague. Most of the authors explain that knowledge is linked to the individual potentials of a person. All these different opinions

concerning its definition show that knowledge is an ambiguous and vague concept that should not be interpreted as a clear-cut definition. However, in order to find an appropriate interpretation of the term for this research, the following definition of Pearlson & Saunders (2009) will be used:

“Knowledge is a mix of contextual information, experiences, rules, and values. It is richer and deeper than information and more valuable because someone has thought deeply about that information and added his or her own unique experience, judgment, and wisdom.”

3.2 Implicit and Explicit knowledge

There can be different ways to distinct types of knowledge. Within this research knowledge will be referred to as 'implicit knowledge' and 'explicit knowledge' (Polanyi,1966).

Weggeman (1997) describes explicit knowledge as a form of information. It is recorded informal language that can be easily collected, organized, transferred through digital means such as a memo or financial report (Pearlson & Saunders, 2009). It is the most tangible form of knowledge and can be directly written by its owner, or expressed in symbols such as drawings or diagrams. Explicit knowledge is information that comes through a message, often in the form of a document or as something one can see or hear. As with any message, there are mostly both a transmitter and receiver. The receiver determines whether the message is received and if he really is informed by that message. Information is of particular influence on the form of knowledge. Jacobs (1999) considers that Weggeman (1997) goes a step too far by labeling any explicit knowledge as information. High explicit knowledge like smart theories and complex technologies are understandable and accessible sources of knowledge. These knowledge sources create leaps in knowledge development.

Implicit knowledge, also referred to as ‘tacit knowledge’, is knowledge that individuals use in their daily activities based on their experience. This knowledge is not easy to transform into words and is often embedded in a particular cultural and environmental background. As a result, knowledge, whether it is individual or group related, is difficult to objectify and transfer to other persons. In order to transfer tacit knowledge, a guided course is needed in which the current owner of knowledge plays a supporting role to the person who wants to own the

knowledge. The knowledge will be better interpreted when that person is using the knowledge in practice, instead of just learning it from a book or manual. Durrance (1998) illustrates tacit knowledge as experience that is difficult to share, for example, cycling a bike. Many of the people know who how to cycle are not actually able to give the right explanation when asked e.g. what they do if they want to turn left. It seems simple: you lean to the left and turn the steering wheel to the left. This is not correct. To turn left you first unconsciously very slightly turn to the right. The tacit knowledge is present, but the fault lies in translating that knowledge because respondents are not fully aware of what they know. Additionally other aspects of tacit knowledge are mental models. Mental models can be identified as a deep-seated under-lying values and belief systems that guide, shape, and dictate the individual's everyday attitudes and behaviors such as cognitive maps and paradigms (Mezirow, 2000). Mental models or schemas try to make sense of a situation and determine how persons understand and analyze situations. The schemas are often subconscious abstractions rather than explicit models. Therefore, they belong to tacit knowledge. They affect whether or not people see each other as trustworthy and how people judge risk.

3.3 Knowledge retention

Nowadays it is very important to efficiently capture the latest knowledge in house to stay ahead of competition. According to Liebowitz (2011) firms are more likely to survive if they continue to innovate. Some organizations choose to outsource various IT elements so that related knowledge can be quickly implemented into the company by, for example, hiring temporary outsourced personnel or transferring permanent personnel to the supplier. In this situation, it is important to retain knowledge and, thereby; not lose any valuable knowledge. Knowledge can be retained by using several transfer techniques to capture, share, apply and create it before the outsourced employees are gone or the transferred permanent employees are coming back to the organization. If the knowledge is maintained properly and effectively, other employees can integrate the knowledge quickly and if necessary adjust to the new requirements. A research of Institute for Corporate Productivity i4cp (2009) indicates that there are only a few companies that implemented a proper knowledge retention strategy or procedure. It is concluded that out of the 420 companies, 77% have no knowledge retention strategy. It was also found that companies simply have no budget or do not make a budget for it.

As discussed in the previous subchapter, knowledge can be divided into explicit and implicit knowledge. Both forms of knowledge are important for any organization. Critical explicit and implicit knowledge need to be identified, captured, shared, transferred and applied by implementing organizational knowledge retention components, such as guidelines or knowledge databases and also by using the right knowledge strategies. Critical knowledge can be defined as the knowledge that is crucial for an organization or for the operational processes of the company and that make a contribution to its mission (Kaplan, 2010). First the definition of knowledge retention will be described before determining how knowledge can be retained. The following definition of Kirsch (2008) will be used in this thesis:

"Knowledge Retention is about focusing on the critical knowledge that is at risk of loss, prioritizing what is at risk based upon potential knowledge gaps and their impact upon overall organizational performance, and then developing actionable plans to retain that knowledge."

According to Evans (2002) there are basically two ways for companies to retain existing knowledge, either manage or facilitate knowledge.

3.3.1 Knowledge Management

Knowledge management can be explained in terms of processes of knowledge creation, followed by interpretation, knowledge dissemination and use, and knowledge retention and refinement (De Jarnett, 1996). Nonaka (1998) states that knowledge will grow both through an individual and within a company and thereby should be actively controlled. In the knowledge management field, knowledge can be considered as a production factor. The basis of knowledge management is to consciously and strategically deal with knowledge. Knowledge management therefore consists of handling knowledge in a structured manner. Furthermore, it requires two important principles: the need for shared knowledge and the need for a culture promoting knowledge sharing.

Sharing knowledge should not only be considered as the exchange of explicit knowledge but also as the transformation of implicit into explicit knowledge such that it can be shared. Smith (2001) emphasized the fact that without knowledge sharing and making knowledge explicit, creative solutions could be overlooked. It is therefore important that in sharing knowledge not

only the exchange of explicit knowledge is present, but also making tacit to explicit knowledge should play an important role. According to Nonaka and Takeuchi (1995), the exchange of knowledge goes through four processes namely socialization, externalization, combination and internalization. Socialization is the process where one learns by watching somebody else work. This involves tacit knowledge such as technical skills. People gain experience of how the environment works since they are part of that environment. The implicit knowledge that will be transferred is not made explicit here. Externalization is the process by which an individual is trying to transfer implicit knowledge into explicit knowledge. This is a difficult process because this implicit knowledge is often unconscious and therefore difficult to express or explain. It is one of the most important processes in generating knowledge, because it is challenging to transform implicit knowledge to explicit knowledge. Externalization concerns the publishing of experiential knowledge such as descriptive research or research on the impact of therapy. Results of this phase are always tangible. Combination is the process in which various types of explicit knowledge are combined with each other. By combining different knowledge sources, new knowledge will be created. Internalization is the process by which a person becomes familiar with the new explicit knowledge and the latter becomes part of the tacit knowledge of an individual. The explicit knowledge is transformed into a personal accomplishment. This can be done by following a training or course and by applying what is learned in daily practice. These four processes follow each other in a cycle. Indeed, the new knowledge that is internalized at the end of the cycle is shared with others through socialization again. Figure 3.1 clarifies the relationship between the four processes.

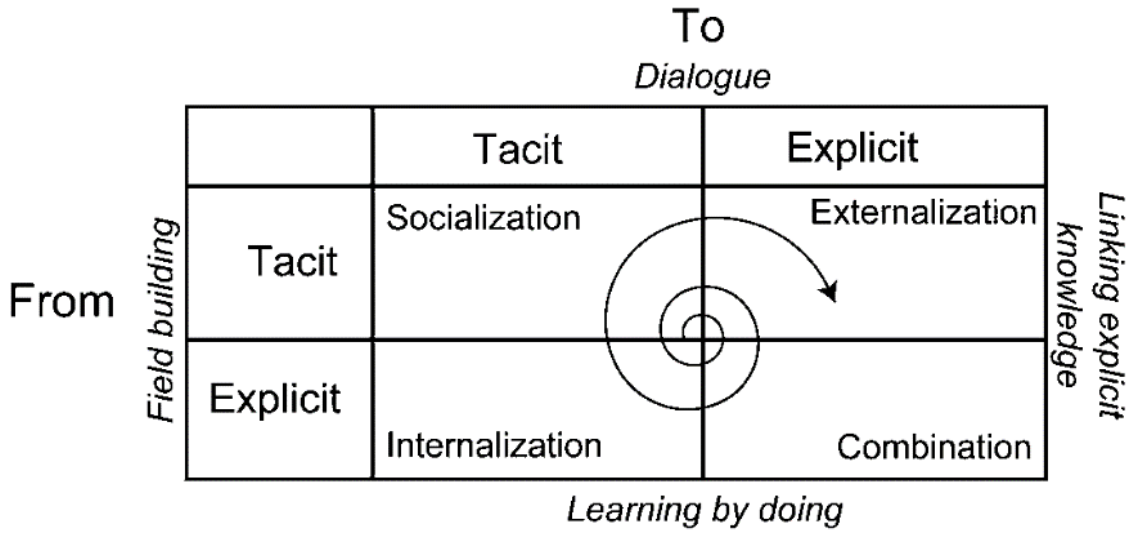


Figure 3.1: Nonaka's spiral of knowledge, Source: Nonaka, 1995

Ling (2011) indicates that knowledge sharing best takes place in a shared learning culture. A shared culture is needed to share difficult explicit knowledge that has been converted to implicit knowledge. Munir (2013) also indicates that the culture of an organization has a significant impact on the organization of knowledge and the way it is shared within a firm. Organizational culture can be defined as the shared values and behavior of individuals. Curry (2000) indicates that a culture where employees are positive and motivated to share knowledge should exist within the organization. Employees should as well understand the value of learning when they are working. Indeed, it is important that in a knowledge-intensive organization, the employees are willing to share knowledge and to use the knowledge of others. In addition, there must be an open communication culture where employees trust each other and dare to give and take criticism. Another expert may indicate whether the knowledge is correct or can be improved when someone generates explicit knowledge. Employees should be open for this way of sharing knowledge to each other. There is a desired form of behavior and interaction in which members of an organization have to adapt. The organizational culture is a part of the institutional context that influences the behavior of individuals (Ling, 2011). An example of a culture that is not suitable for sharing knowledge, is an organization where employees see knowledge as power and prefer not to share it with others. They would rather not share their knowledge because they are afraid to lose their dominant position. On the contrary, companies that use professional bureaucracies structure often form groups. The employees within these so-called groups can strongly feel connected with each other and the possibility of jargon language occurs.

3.3.2 Facilitating Knowledge

Facilitating knowledge can be described as a learning climate in which knowledge sharing takes place. In an organization, knowledge can be shared if top management is convinced of the fact that knowledge should be nurtured, supported, strengthened and been taken care of. Furthermore, a strong culture of continuous improvement and learning is needed centrally (Goh, 2002).

There are several items that can facilitate knowledge within and between organizations. Trust is needed between the employees and the organization to make knowledge transfer effective. A research shows that both personal and professional trust are positively and significantly related to the receipt of useful knowledge (Argote, 2000). As a matter of fact, trust between the

employees and the organization results in a safe and appreciative learning environment. Trust ensures that the fear of an employee to share knowledge disappears (Jones, 2002). Additionally, collaboration encourages cooperation as well as employees to solve problems together. Knowledge is created through interaction between individuals. Participation, empathy and understanding determine the extent to which employees can work together (Goh, 2002). In fact, it is communication which ensures that knowledge can be understood. Social skills, such as criticism, appreciation and feedback are important. These social skills can be expressed in the communication process, which consists of the sender, message, encoding, channel, receiver, decoding and feedback. These factors determine the extent to which communication is done in the right way. Figure 3.2 shows how these elements are related to each other (Berlo 1960).

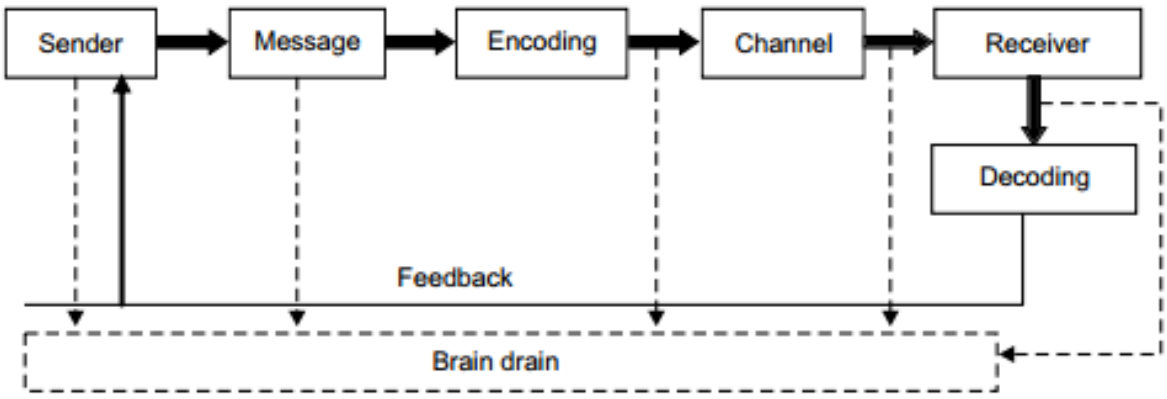


Figure 3.2 - Business communication (Berlo, 1960)

As surprising as that may be, rewarding is an important element within knowledge, as it may encourage the employee to transfer knowledge. The best known form of reward that people are aware of is salary and secondary benefits (Wu, 2013). In addition to salary and secondary benefits, there are bonuses used for employees who have accomplished something exceptional. Furthermore, people can be emotionally rewarded either in the form of a pat or recognition of the work done. All the above are examples of extrinsic reward. Another type of reward is intrinsic in nature and is manifested in the form of emotions or feelings. For instance, the sense of relief when an assignment ends well or the feeling of satisfaction when a job is finished are representative of intrinsic reward.

3.4 Knowledge within IT outsourcing

Knowledge is seen as an important element to create competitive advantage (Jacobs, 1999; Širec, 2012). Therefore, it is important to strategically transfer and capture knowledge from and to the supplier. In IT outsourcing some organizational knowledge will be transferred between two or more companies (Johansson, 2003). Evans (2002) indicates that it is quite difficult to transfer organizational knowledge because many of the knowledge is tacit and not easy to transfer. Figure 3.3 shows clearly that both parties need to have a good relationship to allow efficient and securely share knowledge.

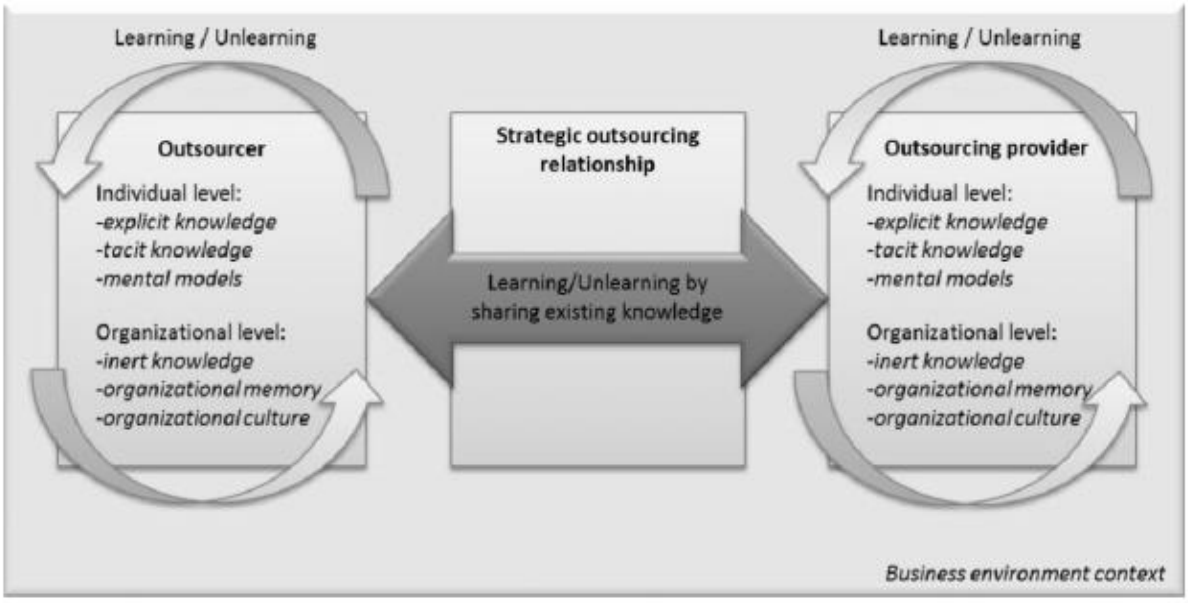


Figure 3.3 Framework: Knowledge within outsourcing (Širec, 2012)

To build a good relationship with the supplier both the manager of the outsourcer as well as the supplier need to eliminate barriers that prevent individuals to share, transfer and retain knowledge at the individual and organizational level. Individuals who are involved in the IT outsourcing activities should not only learn from each other but also unlearn e.g. outdated knowledge. A distinction can be made between explicit, tacit knowledge and mental models for learning and unlearning at the individual level. As stated in section 3.2, documents and reports are some examples of explicit knowledge that is easier to transfer to the supplier in comparison to tacit knowledge and mental models that also refer to tacit knowledge. If tacit knowledge and mental models are shared with the supplier both parties should devote enough time to transfer these more complicated knowledge items.

On the organizational level, inert knowledge can be found within the company. Inert knowledge is knowledge that should have been implemented but was forgotten, although it could be useful. In some cases, it is about conceptual knowledge that is insufficiently ingrained into the routine of a procedure. In other cases, it is a routine that is seldom applied in various situations. Inert knowledge can be activated through exercises, re-applying it more frequently in new situations or better integrate the knowledge by for example, viewing it from different angles (Dekeyser, 2009). Furthermore, the organizational memory can be indicated as explicit knowledge that is contained within the organization with a tacit dimension. When implementing outsourced IT activities it is common that the knowledge will be changed due the fact that processes are constantly changed. The changes of the processes influence the memory of the organization. Situations can occur where the memory of the organization is deviant from the outsourced IT application resulting in failure in the long-term (Huang, Newell, en Pan, 2001). Finally, it is a challenge for companies to communicate with different people that have different cultures and social contexts which constitute organizational culture. This means that the knowledge gained in a given organization can be difficult to carry over to another organization, therefore companies should analyze if their culture fits with the supplier's allowing to share knowledge.

3.5 Summary Knowledge

No clear answer about the meaning of knowledge can be found in the literature. Knowledge is defined in different ways. Pearlson & Saunders (2009) for example, interpret knowledge as a mix of contextual information, experiences, rules, and values. The description of Pearlson & Saunders (2009) will be used to define knowledge: “Knowledge is a mix of contextual information, experiences, rules, and values. It is richer and deeper than information and more valuable because someone has thought deeply about that information and added his or her own unique experience, judgment, and wisdom.”

Crucial implicit knowledge is abstract and difficult to formulate and helps to determine the identity of the organization. Implicit knowledge is expressed through the experience that employees have gained over the years. Explicit knowledge or codified knowledge is a form of information. It is recorded informal language that can be easily transferred. Explicit knowledge is the most tangible form of knowledge.

It is important for companies that outsource IT activities to retain this knowledge within the company throughout the contract phase. There are two ways for companies to retain existing knowledge by either managing or facilitating. Knowledge management can be described in terms of processes of knowledge creation, followed by interpretation, knowledge dissemination and use, and knowledge retention and refinement. The basis of knowledge management is to consciously, explicitly and systematically deal with knowledge. Facilitating knowledge can be described as a learning environment in which knowledge sharing takes place. In an organization, knowledge can be shared if top management is convinced of the fact that knowledge should be nurtured, supported, strengthened and been taken care of. Knowledge retention can be defined as follows: “Knowledge Retention is about focusing on the critical knowledge that is at risk of loss, prioritizing what is at risk based upon potential knowledge gaps and their impact upon overall organizational performance, and then developing actionable plans to retain that knowledge.”. To build a good relationship with the supplier when outsource IT activities, both the manager of the outsourcer as well as the supplier need to eliminate barriers that prevent individuals to share, transfer and retain knowledge at the individual and organizational level. A distinction can be made between explicit, tacit knowledge and mental models for learning and unlearning at the individual level. On the organizational level, inert knowledge, organizational memory and organizational culture can be found within the company.

4. CSFs that impact knowledge retention in IT outsourcing

Several success factors are pointed out in the literature where knowledge is associated with IT outsourcing. To keep a clear overview, encountered success factors from the literature are categorized, through which, the following sub-question will be answered in this chapter:

What success factors impacting knowledge retention in IT outsourcing are found in the literature?

According to Boynton and Zmud (1984), every organization makes use of critical success factors. These factors require constant management attention. Critical success factors are factors (activities, variables, conditions, etc.) that are crucial in achieving a particular goal. A critical success factor is a necessary condition for success in outsourcing of IT projects. It is important to identify the success factors that are critical in retaining knowledge when outsourcing IT activities (Boynton en Zmud, 1984). The critical success factors concerning IT outsourcing with the relation to knowledge retention that have been found in the literature are explained in detail throughout this section.

4.1 Top management support and awareness

It is crucial that the manager, or supervisor, encourages and motivates its employees to take knowledge retention as a full-fledged task. When people are in need of guidance, it is the manager who must be able to provide this support (Munir, 2013). Indeed the supervisor is responsible for the continuity of the service and ensures that the tasks and knowledge of a departing outsourced employee are picked up by the permanent employees. Furthermore, he should established continuous connections between the daily operations on the work floor and the strategic policies of the organization (Evans, 2002). Through his role, the manager can connect, control, and provide support to the employees and often has a good notion of the value on the knowledge that will or has been created. Also, making priorities, in order to determine what knowledge is crucial to the success of the company, is one of his responsibilities.

It is also critical that the organization and associated managers establish thorough knowledge management policies and that both the managers and staff are aware of their strategic importance. Smith (2007) indicated that a knowledge management policy ensures the preservation and effective use of knowledge within the organization, and, surprisingly, many organizations are lacking knowledge policy. In the past it was not even required to have a proper knowledge policy, organizations where small and there was an informal network of a few people who knew each other exactly who did what and who is able to do what. Therefore, the knowledge transfer and retention was relatively fine. However, as organizations become larger and components are outsourced, the informal environment often disappears or the company no longer only consist out of permanent employees. Due to the growth and distribution of temporary staff that is active in the organization, it is impossible to share knowledge in an informal way. It is at that point that some knowledge may be lost. Knowledge management policy within an organization must provide guidelines for the sharing, collecting, retaining, stimulating and developing of knowledge for the purpose of effective and efficient use of the products and services that the company is providing (Weggeman, 1997).

The awareness of the strategic importance of knowledge is also a good preparation in the stage of pre-outsourcing, with the aim for both partners to agree to what knowledge will be transferred. Comprehensive preparation should be done to clearly analyze the risks of knowledge loss when outsourcing IT activities. A management that is motivated to understand the need for knowledge retention and is aware that knowledge loss can occur , will undertake action to realize strategic transfer of knowledge. This refers to a knowledge-oriented culture (Evans, 2002).

4.2 Employees qualification for sharing knowledge

Evans (2002) indicated that sufficient attention to personnel within an organization another crucial factor is to retain knowledge. Personnel that possesses good qualifications for sharing and facilitating knowledge, and are involved within the outsourcing IT project, will help to determine the success of service from the supplier. To understand why the qualification of the employee is of such importance, two situations will be clarified.

In the first situation, a part of the personnel of the outsourcer will be moved to the supplier. To guarantee a seamlessly collaboration with the supplier, it is important that the personnel of the

outsourcer has sufficient knowledge of the IT infrastructure and applications. Delen (2005) indicates that successful knowledge transfer through personnel is one of the success factors in IT outsourcing. Indeed, throughout the process, new knowledge, coming from the supplier, is acquired through the relationship between employees from both parties. Although transferring knowledge is important for the outsourced IT project success, personnel should be careful when crucial knowledge pertaining to the company is transferred to the supplier in order not to risk losing valuable information. If the personnel of the outsourcer is not sufficiently informed and does not possess the right knowledge, the supplier may not deliver the desired result or unnecessary valuable knowledge will be transferred. It is of importance to carefully transfer personnel when outsourcing IT activities. If a company outsources IT activities, it is common for the employees to be split into three types of groups (Delen, 2005). First, there are the users, which are the employees that will use the outsourced IT components and are situated the furthest from the supplier in terms of communication channel. They will communicate through formal channels such as a help desk and deal with the agreements of a Service Level Agreement (SLA). A service Level Agreement is an agreement between two or more parties, where one is the customer and the others are service providers. A service Level Agreement will not automatically indicate the desired quality of service. Second, there is the IT personnel that is transferred to the supplier. These employees encounter the most changes. They will report to a new employer without having requested it. It is essential that the outsourcer considers this transfer not as shedding excessive labor forces but as realizing that the quality of the staff that will be transferred soon helps to determine the success of the service. To guarantee optimal service and critical knowledge retention from and to the supplier, personnel from the outsourcer should have sufficient knowledge of the IT applications. Furthermore, they need to understand what knowledge can be shared and should not be shared with the supplier. Third, the outsourcer should leave some personnel behind that leads the supplier, also called the demand management. The demand management has two functions: the account management to the users and the contract management to the supplier. The account managers translate the requirements of users in SLAs. These managers must therefore have knowledge of the organization and its business processes. The contract managers ensure that the supplier fulfills its agreements through consultation and reports. These managers should have thorough IT knowledge to evaluate the quality of service that needs to be given. Figure 4.1 clearly shows how the groups are divided.

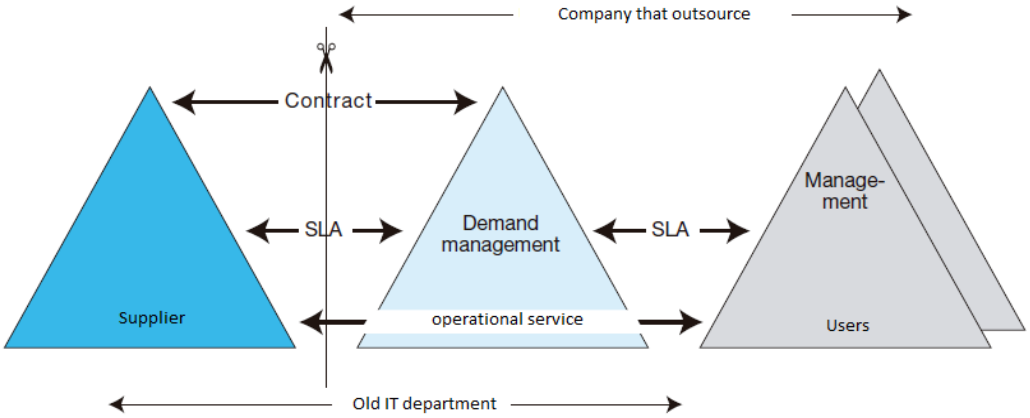


Figure 4.1: Company that outsource IT activities (Delen, 2005)

Delen (2005) indicates that carefully splitting the staff within an IT department where demand management remains and part of the staff is transferred to the supplier is an important element for successful outsourcing.

The following situation shows that IT outsourcing can be done without the transfer of personnel. Outsourcing data servers or designing or upgrading software applications are examples where usually the transfer of personnel does not apply. Nevertheless, the outsourced company should also extensively analyze what knowledge can and has to be transferred to the supplier. Personnel that is well trained and notified what knowledge needs to be shared and how to share it, ensures the retaining of critical knowledge.

According to Evans (2002) the dedication, motivation and vision of the personnel is also a key success factor for retaining knowledge. This is a strategy that is based on the relationship with the employees. It is about deepening the relationship through binding employees with the organization. That is, being perceived as an attractive employer ensures that employees are more loyal and less likely to leave. As a result, they provide knowledge retention to the organization.

4.3 Efficient knowledge transfer

Knowledge is important for both the outsourcer and the supplier. As stated in Chapter 4, there are several factors that play an important role regarding how to retain knowledge effectively from the collaboration with the supplier. It is also important that the responsible personnel possess the right skills to do so (Smith 2007).

There are at least two parties active in communicational transfer. The same applies to knowledge transfer. The sender makes it possible to unravel and transfer the knowledge. How effectively this is done depends on the sender's motivation and skills to transfer proper knowledge. It is also valid for the receiver who will pick up the knowledge. The absorption of knowledge depends on the motivation, capacity and skills of receiver. (Berlo, 1960)

Creating support and commitment to collaborate and share knowledge in both organizations is of tremendous importance (Johansson, 2003). In addition, there is a distinction in the transfer of knowledge and transfer of personnel with knowledge. Knowledge sharing is easier when it is internal, than if it comes from external parties. Employees within an organization have contact with each other at their workplace and therefore often have a closer bond with each other. A new situation is created when employees from the suppliers, carrying knowledge, are transferred to the outsourcer, and therefore, new ways of interaction arise. Establishing knowledge clusters can be a proper solution for providing effectively facilitating knowledge (Den Hertog, 1995; Weggeman, 1997). Knowledge clusters ensure that groups will be created with personnel that have similar interests or competences. The developed knowledge within knowledge clusters will be shared with the whole company by using specific tools and through special interactive sessions. This creates the opportunity to learn from other people's experiences.

It is also important for somebody to know who to refer to in order to access the right knowledge. According to Evans (2002) a personal competency database is an interesting example to solve this issue. This tool creates an overview of through which person and in which state of quality the knowledge can be found. The availability of clear competency profiles across the organization on the basis of, for instance, intranet, is a must to transfer as well as to facilitate knowledge effectively. An intranet system gives the organization the opportunity to transfer proper knowledge to the appropriate people (Curry, 2000). Mainly in IT outsourcing, an intranet

system is an effective tool to avoid availability of not relevant knowledge to for example the supplier that undertakes the outsourcing project.

Another way in which knowledge can be transferred effectively is by using best practice (Pearlson, 2009). Best practices are pieces of knowledge that describe how certain problems, situations and tasks may best be dealt with. Unlike standard protocols, best practices should be evaluated and adjusted continuously. Each best practice includes a clear description of the problem or process and the method by which the problem can be overcome. In addition, worst practices also exist. Worst practices prevent mistakes to happen again. This gives for an outsourcing company the possibility to transfer knowledge more effectively.

4.4 Organizational culture

Knowledge management is, as described in Section 4.3.1, an important part for sharing, transferring and retaining knowledge within an organization. How knowledge is implemented or managed, mainly depends on an organization's culture. Culture can be described as the set of norms, values and behavior in an organization or group. Thus, when a culture with little mutual trust prevails, there is an atmosphere where employees keep knowledge to themselves. However, if there is a an atmosphere of trust, people are more likely to find it important to share knowledge with each other and contribute to what happens with that knowledge. (Ling, 2011)

Communication is an important part of culture in an organization (Širec, 2012). It is important to analyze how communication takes place between the management and the employees, but also how employees interact with each other. Open and honest communication about the goals, motives and consequences of the organization is essential to stimulate the transfer of knowledge. Knowledge is an important basis for the positioning of staff and fear of losing it often makes it difficult to reach open communications levels. Evans (2002) argued that an open environment ensures that the staff creates, shares and uses knowledge and thus retains the latter. Creativity, curiosity and taking legitimate risks are fostered if the organization is open to encourage a climate where people can experiment. In addition, informal gatherings such as lunch breaks and corporate events provide for knowledge sharing that are not likely to happen during formal meetings. Both informal as well as formal meetings ensures for different types of collaboration between staff so that knowledge is effectively shared as well as picked up by

the permanent employees from the outsourced employees. Additionally, it also guarantees teamwork and, when employees work in a team, knowledge is easily transferred to other teams and therefore individuals.

Furthermore, the company should carefully analyze the culture of the supplier. If both cultures differ too much an unhealthy relationship could arise and as result inefficient knowledge retention could occur (Širec, 2012). Situations such as transferring people, procedures and who takes the key positions during the project need to be taken into account.

4.5 Proper communication and mutual trust

The outsourcing company and supplier make a lot of effort to creating a perfect outsourcing contract. During this phase, but also afterwards, it is very important to communicate effectively with the supplier and internal personnel (Delen, 2005; Beulen, 2010). If there is no regular or clear communication, false expectations can arise. Uncertainties related to knowledge retention include:

- Which employees should be retained? Did we have transfer their knowledge?
- Who can I ask for important technical questions?
- Which employees will transfer to the supplier or collaborate with an outsourcing colleague? Are these employees trained to transfer knowledge efficiently?

Also, questions emerge concerning what knowledge may or may not be shared and what knowledge will properly facilitated for retention purpose.

The consequences of outsourcing need to be communicated early, clearly, interactively and regularly to all that are involved (Beulen, 2010). This ensures that clear goals are set on how knowledge is transferred, protected or retained. Providing the right information is needed at all stages of the outsourcing process: before, during and after. This also applies to all parties involved during the whole outsourcing process.

By informing people properly you avoid noise and create realistic expectations. Also keeping an ongoing dialogue with those that are involved, for example through work groups, question sessions or a handbook on the intranet (curry, 2000), is important. This makes it possible to map expectations and false expectations can be corrected efficiently. IT employees who have been transferred to a supplier are particularly important (Delen, 2005). If they are not kept

informed about the situation and new developments, chances are that they will not endorse the change. As a result, they are more likely to leave the organization and constitute a precious knowledge loss.

Mutual trust is an important element for a successful outsourcing relationship (Jae-Nam L., 2001). The supplier must be controlled properly and both the supplier and the outsourcer should be able to communicate well together. Confidence in the other party is not something easy to establish. Trust is something that has to grow naturally it is not imposed as a requirement in the contracting phase of the outsourcing. The outsourcer could try to get more information from other outsourcing parties that have used this supplier to evaluate its trustfulness. Good mutual confidence allows both parties for optimal knowledge sharing (Delen, 2005).

4.6 Avoid threatened litigation in contract termination

Much attention will be paid in making arrangements for IT supplies. Regularly, parties think to agree with each other, but subsequently found that their perception greatly differs. The customer becomes dissatisfied and the provider believes it did a lot more than agreed (Earl, 1996). There is a dispute situation that engenders a lot more costs than a good IT contract. These problems can be avoided by making clear agreements in advance. All elements that have to do with the outsourced IT activities should be clearly arranged before the contract will end. During the outsourcing period, the termination scheme should be kept up-to-date (Beulen, 2010).

Many of the risks associated with the termination of the contract are located in the area of knowledge loss. It is therefore the outsourcer's responsibility to lay out all the risks before he goes into business with the supplier. When outsourcing, knowledge can be lost with regard to, e.g. how system works and how it is configured. This lack of knowledge increases the dependency of the current vendor and makes an offer process with a new supplier difficult (Earl, 1996). It is therefore essential to know what is happening in the whole outsourcing environment. This makes it easier for both the outsourcer as well as the supplier to give a proper tender and support.

Furthermore, responsibilities need to be transferred, not only at the initial closing of an IT outsourcing contract, but also when a new contract will be given to another IT supplier at the end of the term. The transfer of these responsibilities to a new IT supplier is identified by transition. The transition consist of transferring contractually outsourced services to the new supplier. It requires a lot of attention from all parties that are involved. In particular, the knowledge (tacit knowledge) that the current IT provider has built should be transferred to the new IT supplier. In addition, the current IT supplier has no other interest than to maintain his reputation. It is essential that there are enough key persons available during the transition period. These key people within the vendor with crucial knowledge of the outsourcer need to be sufficiently available for the retention of the knowledge acquired through the outsourcing process. (Beulen, 2010; Delen, 2005)

4.7 A strategic knowledge-based decision

Knowledge can be considered as one of the most important factors for a company to differentiate itself from its competitors (Jacobs, 1999; Širec, 2012). When deciding to outsource IT activities, possible strategic knowledge loss costs should be taken into account. It is therefore advisable to analyze various possible outsourcing scenarios. By analyzing the scenarios, potential knowledge loss can be reviewed depending on what IT activities are outsourced. For instance, essential distinctive knowledge can be acquired by the competitor through the same supplier. Additionally knowledge has to be taught again due to the fact that part of it has not been retained by the outsourcer at the termination of the contract.

Not all knowledge is of strategic importance. On the basis of the value of the knowledge and maturity, a division of four quadrants can be designed. Figure 4.2 shows the 4 quadrants in the maturity model (Singh, 2006).

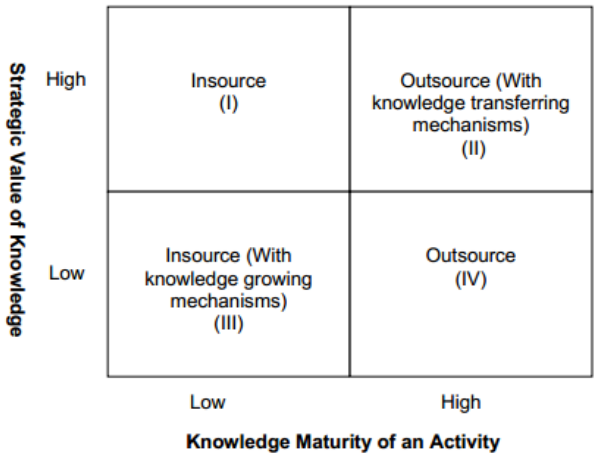


Figure 4.2: Maturity model (Singh, 2006)

Quadrant one indicates that insourcing is the best option when knowledge is of high strategic value to the organization while the maturity is still low. These activities should not be outsourced. Organizations that depend on a supplier may find themselves stuck if it depends too much strategically important new knowledge from the supplier. Essential strategic knowledge that is learned and innovated in-house gives the ability to remain competitive in the market. This knowledge will be less likely to be lost and costs related to the loss of knowledge will be limited. Quadrant two is relevant for knowledge that is of high strategic value with minimal improvement in the future due to high maturity. Therefore, organizations tend not to outsource their IT activities. However, they should consider doing so. An organization could convert the mature knowledge to a more young knowledge platform, thereby developing a new strategic position. For instance, the following situation can also apply in which the organization thinks that the owned knowledge is highly mature but the potential supplier has the ability to process this knowledge into a new and innovative way. The supplier can interpret this knowledge differently. It is important that the supplier works safely with the outsourcer and performs closed communication because the knowledge has strategic value. The knowledge should also be well transferred to the outsourcer without losing any knowledge to the competitor. Quadrant three is characterized by knowledge of low strategic value and demonstrates the opportunity to improve it further because of the low maturity. An organization may want to outsource these activities because of low strategic value, but it should be noted that these opportunities are still unknown due to the low maturity of knowledge. Organizations might want to keep the knowledge in-house and learn what future strategic value this knowledge can bring. The learning process stops when these activities are outsourced and it is a difficult task to take renewed outsourced knowledge in house again. If the organization

assumes that the knowledge will be of little strategic value, outsourcing is a good option. Finally, quadrant four is based on low strategic knowledge and high maturity, leaving little room for improvement in the future. These IT activities are perfect candidates to be outsourced since there are not many opportunities to exploit them. Through outsourcing, an organization will get the benefits of higher quality and lower costs, which may improve its ability to compete.

5. Design practical research

In the first part of this study, theoretical research has been done by reviewing existing literature concerning the factors that contribute to the knowledge retention when outsourcing IT projects. The gained insights will transformed into relevant questions. Based on the results of the interviews, actual factors that play an important role in retaining knowledge within outsourced projects will be investigated. In many researches, case studies are frequently used to analyze on IT outsourcing and knowledge as well as to analyze the relationship between the outsourcing company and the supplier (Delen, 2005; Kern, 2002).

There are six sources that can be used to describe a case study: documentation, archives, interviews, direct observations, participant observation and physical evidence. Interviews and documentation when available are manly used for this research. Various sources, such as annual reports, online data of the organization and any other hardcopy documents will be used for collecting the data that will be studied for the different case studies. There are also some requirements about the interviewee in order to ensure the quality of the practical research (Yin, 2009). The interviewee must have access to the subject and should be interested in the subject matter related to IT outsourcing. The interviewee should also be willing to give information to the investigator. Finally, the interviewee should be able to give impartial information, despite his involvement.

The experts who agreed to be part of the case studies are dealing with IT activities and IT outsourcing in their daily work. The voluntary commitment to cooperate with the investigation indicates that the interviewed experts are willing to support the investigation. Interviews will be published anonymously. This helps to retrieve more valuable information from the interviewee. Finally, if available, relevant written documentation will be studied.

Interviews ranging from one to one and a half hours are conducted. During the interview, a pre-formulated questionnaire serves as a guide. This questionnaire is structured on the basis of knowledge retention success factors related to IT outsourcing and provides guidance during the interview. The interviews are fully recorded and then written down, to be presented to the interviewees for approval. Once the interviews have been approved, they are used for further analysis.

The ultimate goal of the practical research is to both investigate the critical success factors that impact knowledge retention in IT outsourcing in practice as well as compare the latter with the corresponding theory. The practical research consists of two parts that are executed in an interview. In the first part, the person involved in the case is asked about the critical success factors that impact knowledge retention in IT outsourcing. In the second part of the practical research, the same person faces critical success factors from the literature. They are then asked to give their opinion on the latter.

6. Case elaborations

As indicated in chapter 5, in order to make a practical link, three case studies have been conducted since two companies have agreed to cooperate with this research. These companies and the three relevant interviewees will remain anonymous. The conversations are recorded and may be retrieved when requested. All interviews were conducted over a period of one month. The interviewees were approached through an introduction of the study. Prior to the interviews, a questionnaire was sent to the interviewee. The questionnaire can be found in appendix 1. The following sub-question will be answered in this chapter:

In practice, how is knowledge retention in IT outsourcing dealt with?

6.1 Case Study of an University

The university is located in the Netherlands and belongs to one of the best universities in the world. It has various faculties, dozens of bachelors and over 100 master programs. In total there are more than 30,000 students and 6,000 full-time employees. The university has a budget of more than half a million euros to use for various projects.

In the 17th century, the opening took place with a dozen students and a few professors who taught a few courses. The university attracted many foreign students which mainly where students from the neighboring countries England, Belgium and Germany. The university has become one of the largest universities in the Netherlands.

6.1.1 The discussion with the contract manager

The interviewee has been working as a contract manager at the university for 21 years, within the administrative department for property and campus. The contract manager is a user of the outsourced IT application and has limited experience with the IT outsourcing situations at the university. Nevertheless, situations exist where the user can indicate how she as well the university dealt with knowledge retention throughout IT outsourcing and how they now deal with knowledge retention if IT applications are outsourced. The contract manager is also highly interested in this particular research subject. The contract manager is primarily involved in property sale, purchasing and renting. The contract manager also reviews how students, employees and entrepreneurs use the facilities, how spaces/rooms in a building need to be

used and handles all legal charges that belong to these elements. Finally, the contract manager uses an outsourced system for all financial activities that relate to his work.

The outsourced financial system is built on SAP and used by the contract manager for making invoices as well as payment for the incoming invoices. This system was implemented a few years ago and it should be pointed out that the actual user has limited information about what exactly happened through the whole outsourcing process. However, the contract manager has a clear view of why this application is outsourced. The main reason is, that it enables various old and new systems to be connected to one singular system. As a result, all the invoices input are handled by one department and not by several, leading to a higher efficiency and easiness of use e.g. erroneous bills are quickly detected. Another reason for choosing to outsource the financial system was to improve the quality of the process to quickly see, for example, the available finance for several property projects. Furthermore, the cost saving aspect brought by the efficiency of the outsourcing supplier in setting up the system was of great importance. Finally, the knowledge that is made available by the supplier was a crucial decision point for choosing to outsource. Although the system let the users work more efficiently, the contract manager indicated that it was disappointing that they were not involved during the decision period, and therefore their knowledge was not taken into account. It is mainly the directors of the various departments and the IT director that had a major impact on the outsourcing decision. Eventually, the executive board determined whether or not to outsource. The contract manager indicated that the low level of involvement of the employees in the decision process decreased their motivation to share knowledge.

Since last year, the University has made a positive step towards knowledge retention. The university is large, with various departments, and previously a “self-centered” mentality that obstructed knowledge retention was present. With the outsourcing of the space allocation information system that attributes space/rooms to activities, the university is arranging meetings and workshops for several persons of several departments. These appointed persons have to share their knowledge with colleges that need to use the system. Additionally, an external employee showed up weekly to collaborate with various internal permanent staff about how and what should be implemented into this information system. The contract manager also indicates the fact that it would have been wiser to discuss in advance with the employees what knowledge should be shared for the space allocation information system and SAP system. At the beginning of the SAP implementation, various key users were trained in

order to share the gained knowledge from the system. The university unfortunately did not effectively use these key users to share the knowledge to other permanent internal personnel. Besides sharing knowledge with each other internally, sharing knowledge to the supplier that was creating the SAP system went well. Together by the university and supplier, meetings were organized so that the processes and associated knowledge could be shared. These meetings ensured that the system could be optimized. Sessions to prepare the employees or give them direction with regard to the meetings for discussing what knowledge could be shared did not take place. The contract manager indicates that this should have been established.

Top management does not encourage the staff to share knowledge with each other although they claim that they are working on it by building policy about how to share and transfer knowledge, hence allowing knowledge to be retained. Recently, the employees can use an Intranet (Yammer) that helps to ensure that knowledge, documents and questions are shared optimally. The contract manager declares that, unfortunately, no workshop have been given to make the employees aware of the importance of using this software. The contract manager thinks that the communications department should be responsible for this software as well as for what knowledge should be shared, how it should be shared and thus eventually retained.

The question whether important knowledge has been lost throughout outsourcing IT reveals that there is a project that did not go well. Indeed, after a supplier had worked for months to digitize various workflows, a change of board put a stop to the project, without realizing the consequences of knowledge loss. For instance, this knowledge could have been used during the financial outsourcing project. The contract manager reveals that, no future measures have been taken to prevent such loss to happen again. It could also be possible that the employees are not informed about these undertakings.

The contract manager thinks that many actions to retain knowledge can be improved and believes that almost every theoretical success factor for knowledge retention should be considered by the university. Only the success factor “Avoid threatened litigation in contract termination” and “A strategic knowledge-based decision” were seen as less crucial in this case, mainly because of the lack of knowledge about these particular subjects. Also, the contract manager indicates that it would be handy to have a protocol i.e. a manual to know how knowledge should be shared internally as well externally, allowing the retention of knowledge. The contract manager determined, after reading the theoretical success factors, that primarily

trust in the supplier is very important. Also, the confidence with the top management should not be underestimated. The employees should be, for example, reassured in retaining their jobs when IT projects are outsourced since when employees remain within the company, so does their knowledge.

6.1.2 The discussion with the director

The interviewee has been working as a director at the university for 11 years, within the management department of Administrative Services Center. The director has over 30 years of experience in the financial field in several companies as well as non-for-profit companies. He fulfilled various functions within the university and was given the opportunity to continue as Director Administrative Services Center because of the outstanding accomplishment for an internal project about financial processes. The Administrative Services Center 's mission relates to the fast and accurate transaction processing and recording of data in the areas of finance, staff and students of the University. The Administrative Services Center has five departments, namely:

1. Accounting
2. Personnel/Payroll
3. Corporate Administration
4. Central Student Administration
5. Project Accounting

The Administrative Services Center has 80 employees/managers divided over five departments. These managers supervise several underlying specialist teams. The director ensures that everything runs smoothly and is responsible for all the activities under the Administrative Services Center. The full organization chart with the related departments can be found and briefly explained in appendix 2.

The director was partly responsible for the entire outsourcing of the project Payroll in which various IT related components had to be developed. Outsourcing the payroll for the university created an ideal way to battle against the complexity and cost of the administration software. The university provides payroll mutations which the supplier processes to pay employees' salary. The supplier checks the delivered mutations for errors. Also, the necessary payments of taxes and contributions are checked and then processed. The supplier is also required to give feedback to the university. The director indicated that the outsourcing project has a certain

degree of strategic importance but does not fall under the core values of the university. It is for any large organization, such as a university with several thousands of employees, essential to efficiently conduct the various administrative processes. The main reason to outsource is to improve the quality of the processes and their continuity. The data stream created by in-and outflow of employees as well as the continuously changing legislation result in a dynamic and complex administration of personnel and salary data. If the university would have a better grip on the speed and quality of this process, it would be able to cut costs and increase services quality. Furthermore, the access to knowledge of the supplier and lowering the risk of obsolete technology constituted reasons for outsourcing the project payroll.

The director had influence on the entire preparation and actual outsourcing period. Before, that is about more than 20 to 25 years ago, the payroll software was done in-house. Minimal IT activities at the time were related to payroll processes. About 15 years ago, the university made the move to outsource a part of the salary administration software and processes to a more qualified company. Within these 15 years, the university moved to three different suppliers due relationships and communication related issues and dramatic mistakes made by the supplier. A situation occurred where wage slips where accidentally send to the wrong persons, along with several other IT related problems. Now, the university currently has an outsourcing contract of four years that will expire at the end of 2015. This current contract will not be extended also due to the poor service provided by the supplier. The current software is integrated into the SAP system that the university outsources at another supplier. The integration did not go smoothly because of the poor communication and knowledge transfer of the payroll provider to the university as well as to the supplier of the SAP system.

During the decision period, it was not taken into account whether there will be any knowledge lost when considering the knowledge that needs to be transferred to be the supplier. The director indicated that it is aware of the consequences of critical knowledge being lost during IT outsourcing. De director argued that the right knowledge to make an efficient payroll was not already in the house and therefore knowledge could not be lost to the supplier. However, there is extensive analysis about how knowledge can be effectively retained from the supplier. Therefore, to some extent a budget has been created to prevent loss of knowledge as much as possible. Mainly information sessions, workshops and trainings have been included as incurring costs in the retention of knowledge. The latter are used to train key persons who are required to effectively retain knowledge as well as to transfer this knowledge to their

colleagues. The director said that he and the other directors always take into account whether the knowledge is of strategic value. If it is the case, some extra precautions will be taken and the project might not even be outsourced. The university and in particular the division of Administrative Services Centre did not happen to outsource a project with already internal knowledge of strategic value. It is mainly the directors of the various departments and the IT director that had a major impact on the outsourcing decision. Eventually, the executive board determined whether or not to outsource. The director indicated that the employees of the department were not involved in the IT outsourcing decision period. During the decision process, users were fully informed that the payroll system would be outsourced to another supplier. This implies that the knowledge of the employees have not been used for the decision of outsourcing but some level of trust with the employees was created by informing them. An essential element that is very important for the confidence in top management is that what is going to happen with staff is clearly communicated. The current employees have been working for many years at the university, implying that crucial knowledge is present and must be preserved. During the decision period, it was announced that some functions and workplaces would disappear. The concerned employees were informed and were given the possibility to attend a training program of the university to perform another function within the same apartment or at another department.

The university used to have a self-centered mentality culture that did not promote knowledge sharing and collaboration. The director indicated that the culture of the university changed considerably, which had a positive effect on knowledge sharing and retention. There is currently a certain bureaucratic culture present within this department which encourages the importance of knowledge and the need to share, transfer and retain it. The knowledge is retained by performing structured knowledge sessions and workshops with one of the employees from the supplier supervising the class. The director argued that in normal circumstances, knowledge is properly shared by the supplier to the university. Because of the poor communication and consultation with the supplier, knowledge from the supplier was poorly shared with the internal employees. The director deplores this because these two elements are very important to optimize processes, share knowledge, and therefore retain knowledge. This is also one of the reasons why the contract will not be extended. Furthermore, the culture of the supplier did not match with the university's culture, meaning that it was not taken into account by the directors. The director explained that they are working and communicating in totally different ways. Additionally, there is also an intranet site Yammer but

it is not yet well integrated within the Administrative Services Center department. Yammer should help the employees to ensure that knowledge, documents and questions are shared optimally within the department as well with the other departments. The university does not have a knowledge policy in place but is building a policy about how to share and transfer knowledge, hence allowing knowledge to be retained. However, it is not clear yet when it will be put into application. For now, the departments of Administrative Services Center makes knowledge policies ad hoc for every outsourcing project. This means that there is no clear general policy that informs the employees how to record, share and transfer the knowledge. However, all the employees involved in the outsourcing project are informed about several issues such as the optimization of proper identification, selection, distribution and storage of knowledge. Mainly the officials of various departments are primarily responsible for the optimization of knowledge retention. The officials are appointed depending on their experience in the field of knowledge capturing and sharing. During this outsourcing project, no employees were transferred to the supplier and no external staff attended the university on a constant basis. This hindered the constant sharing of knowledge, even though the organization's proximity enabled external employees to come if needed.

The director indicates that within the SLAs clear agreements were made with regard to knowledge, architecture and configuration management retention from the supplier. Because of the bad experiences with previous suppliers, the division improved the contract by stating clear SLAs. If the supplier performs poor knowledge sharing, as described in the contract, a certain amount of money will not be paid to the supplier. However, concerning the software assets, it is unclear who owns the software. This needs to be improved before the university switches to a different supplier. Furthermore, it is also clearly stated in the contract that suppliers do not have access to confidential information if a contract is not extended or terminated.

To the question whether knowledge is lost, the director replied that during his period as director knowledge loss never occurred during IT outsourcing projects. Situations where knowledge is effectively retained can only be explained within the area of knowledge retention from the supplier to University. An IT outsourced project example where knowledge has optimally been retained is the latest project payroll. The director said that he is satisfied about the outsourced project and would not have done it differently. Looking at the theoretical success factors, the director agrees that the knowledge retention success factors will help to efficiently knowledge

retention during IT outsourcing. A supplement to one of the success factors would be to clearly notify employees when outsourcing IT activities especially when it will impact the company's structure. By doing so, confidence is created among the personnel, enabling the; to retain knowledge. In his opinion, important success factors are trust and the relationship with the supplier. From experience, the director indicated that without a good relationship and trust, knowledge retention will not be optimally done.

6.2 Case study of an IT service provider

The IT service provider is an experienced, yet modern, IT Services company, which focuses its expertise on the dynamic market sectors of Retail, QSR and Hospitality. Using its experience, technical expertise and passion for customer service, it removes the frustration and expense of operating someone else's IT services, and provides a wide range of tailor-made solutions that are right for these business.

The discussion

The interviewee has been working for 5 years as Director Northern Europe at the IT service provider. The director focuses entirely on the acquisition and profiling, internally and externally. He is responsible for all the commercial aspects of the business but prioritizing on customer contacts, product and project management. The director cooperates closely together with the other directors and partners in Europe. It is expected that the director maintains the company philosophy and adds new quality and effectiveness to the processes of the company. The director's primary task is to further expand the service portfolio of the IT service provider, in addition to sales and profitability, stability and growth, continuity and positioning of the company.

A huge project that the company outsourced is a logistics software which was originally internally developed. A separate department maintained the software and was responsible for optimizing and providing trainings to the users that needed to use it. The IT service provider chose to outsource the software completely. The costs for this outsourcing project incurred several millions euros. Preceding the outsourcing period, the IT service provider took one year to review various suppliers in order to determine which software was well suited to the organization. After five years of working together with the selected supplier, an evaluation took place concerning the status and the possibility to prolong its services. Unfortunately, the

software was never fully implemented and the contract was not renewed, ending in a failure. The director indicates that he was not in favor of outsourcing this part of the IT activities because it was a core value of the company while most of the other directors as well as many shareholders claimed that this IT application was no part of the core business but that the logistical elements, partners and knowledge were. With hindsight, they admitted that it was not a good choice to outsource all IT parts of this IT application. The main reason for outsourcing the entire logistics system was to enable a greater focus on core competencies, lowering the risk of obsolete technology and improving the quality of the process. The appropriate supplier was chosen because of its experience in the field of creating standardized logistics software that would enable the company, to manage the data from different countries on a single platform. Previously, a different software was built for every country and configured accordingly to the their respective characteristics. The software from the outsourcing company enabled a more easy and efficient way to manage the data from the different countries. Furthermore, access to knowledge and economies of scale were also a reason to choose for outsourcing.

The factor loss of knowledge was not taken into account within the decision whether or not to outsource that project. Indeed, at that time, nobody was seriously thinking about this issue and nobody was aware of what consequences outsourcing the project could have on knowledge loss. The director indicated that they acted poorly concerning knowledge retention in general, and it certainly should have been of importance to consider the latter when making outsourcing decisions. After the outsourcing of the logistics application was terminated, only certain parts of the logistic application were outsourced and not the whole IT logistic activity. This would give them the opportunity to focus on certain parts, reducing knowledge loss. However, during the decision procedure, a structured way of sharing knowledge throughout the outsourcing period was discussed, mainly due the fact that the project was cut in several phases, and not so much because of knowledge retention. This way of sharing knowledge ensured that the supplier could work efficiently. Mainly the directors and biggest customer from the company had influence on the decision to outsource or not to outsource the logistic activity. Only after the decision was finally made, opinions and thoughts of the employees were taken into account. This means that the knowledge of the employees and their opinion were excluded from the decision. However, employees were informed that the logistic software was going to be outsourced and that the employees who developed it were going to be involved in the outsourcing process. Therefore, retaining these important employees was crucial for knowledge to be preserved. Moreover the culture of the company has been compared with the

cultures of the several suppliers by analyzing the referenced suppliers as well as how the suppliers are dealing with their personnel in case of transferring employees. Throughout the decision making as well as the actual outsourcing phase, more than 100 people from the IT service provider were involved.

The organization exerts a culture in which it is important to share knowledge with each other but not particularly to retain knowledge. The director indicates that sharing knowledge ensures employees such as technicians and developers to be aware of the outsourced projects that are taking place. If external personnel is coming to the company, the managers will discuss beforehand which key users should be involved in the session with the external employee, the aim being to gain knowledge by sharing crucial knowledge with relevant colleagues. For instance, one of the company's successful outsourcing project is "Lotus Notes platform" for which several sessions and trainings took place in order to share knowledge with, and retain knowledge from, the supplier. Within this project, an external employee was present once a week to gather and share expertise from and to the permanent staff. Knowledge has been rigorously examined by the key users and managers to determine what should be shared with the internal permanent employees, allowing the company to retain important knowledge. With regard to efficient knowledge sharing among internal employees, workshops and working groups were organized during IT implementation phases. There is also an online portal where all available manuals, questions and answers can be found. The director indicated that it would have been wiser to discuss what knowledge should be communicated to the external employee beforehand. It is not clear whether crucial knowledge has been unnecessarily lost to the supplier. The director stated that trust and bond with the supplier were also important factors for the success of knowledge retention. Referring back to the previous logistics software outsourcing, confidence in the supplier deteriorated and so did the supplier's way of transferring his knowledge to the company's internal permanent personnel, resulting in a dramatic loss of important knowledge. The company noticed that the supplier was centered on its own interests and distrust appeared while confidence in the supplier decreased. The director also pointed out that the knowledge of the logistics project was still quite recent and, as mentioned in the first part of this interview, that it was partly of strategic value. Therefore, the interviewee thinks that the logistics software was not a good candidate for outsourcing.

No knowledge policy was created nor was a responsible person present during any step of the outsourcing project to monitor what knowledge could and should have been shared with the

supplier. The IT service provider is currently working on a policy but its priority is not very high. Concerning the contractual agreements with the supplier, some SLA's were established with respect to the knowledge that has to be shared with the IT service provider. No specific information was given regarding these described elements with the contracts. In addition to the knowledge aspects, the director emphasized that the return of staff and retention of certain external staff is determined beforehand as much as possible. This is also crucial to give trust to the employees when outsourcing IT activities. Within a contract termination, it is clearly described what relevant knowledge should be shared and only if this has happened correctly, will the IT service provider pay the supplier. Even with early termination, certain points are described in the contract in order to prevent knowledge loss. The director also indicates that in every contract, well-defined property rights are described. If a supplier wants to use specific software developed for the IT service provider, they are obliged to contact the IT service provide. Due to the fact that the logistics project has been cancelled, some employees that were involved with the latter were appointed to key persons so that knowledge can be transferred to the other suppliers. The IT service provider made the choice, as already mentioned before, not to outsource the whole logistic project at one supplier but in separated parts at several suppliers. The previous supplier obviously had no more access to the systems of the IT service provider but the other way around, some access is guaranteed as agreed upon in the contract.

As for the knowledge loss situation within IT outsourcing, the IT service provider mainly lost knowledge due to the fact that the collaboration was less present during the period of outsourcing. Before a project was outsourced, developers and engineers worked closely together. Now that external employees are present within the company, because of the added layers, communication is more difficult. As a result; knowledge will not be efficiently transferred leading to partly or totally losing crucial knowledge. Thus, there is a need for knowledge sharing. The director also indicated that it is not clear whether or not knowledge loss occurred. The IT service provider attempted to solve this issue by making better agreements as well as giving the internal permanent employees training to protect crucial internal knowledge. Situations where knowledge is effectively retained can only be explained within the area of knowledge retention from the supplier to IT service provider where various meetings and the intranet have brought some great support.

To effectively maintain knowledge, collaboration between the top management and employees needs to be established to communicate what knowledge is crucial and should not be shared

with the supplier. By organizing workshops and other meetings, knowledge can be shared in groups. During these meetings, people that are known for their capabilities to transfer the knowledge to their colleagues should be present for effective knowledge retention. Keeping employees informed gives employees confidence, allowing them to share knowledge. Furthermore, defining knowledge is a critical activity to pursue before certain knowledge retention components are imported within an organization. Finally, trust with the supplier is very important, even though there are several SLA's.

After reading the theoretical success factors, the director did not recommend any new success factors but commented on the already existing ones. Two aspects he found very important were the focus on the supplier as well as keeping your employees informed before and during the outsourcing period. He believes that the quadrants from the success factor "A strategic knowledge-based decision" are also really interesting. By using this strategy in the decision period for a IT outsourcing project, a more accurate strategic knowledge decision can be made.

7. Analyzing the case studies

The objective of the research is to understand the critical success factors for knowledge retention within outsourcing IT activities. Relevant case studies that are mainly based on interviews have been discussed in chapter 6. During the first part of these interviews, no reference to the theoretical factors have been made, enabling the interviewee to give its own interpretation of what and how knowledge retention can be effective within IT outsourcing. Subsequently, the theoretical success factors have been mentioned allowing the interviewees to analyze and compare them with their own experience. Throughout this analysis, the theoretical success factors could be adapted or ignored. Based on the interviews, possible success factors could be added to the theoretical success factors. The following sub-question will be answered in this chapter:

Are the theoretical critical success factors impacting knowledge retention supported in practice?

Top management support and awareness

The success factor “top management support and awareness” was strongly present in all three of the interviews, even though it is not yet formally in place at the university at every division, both interviewees from the university indicated that it is very important for the success of knowledge retention. The IT service provider related that the top management tries to motivate the internal employees to share knowledge with each other when external employees are present. Both at the university and the IT provider, a knowledge policy regarding the retention of knowledge is being developed. Nevertheless, the IT service provider considers it as a low priority activity. The division Administrative Services Center at the university creates for every IT outsourcing project and other projects a knowledge policy that is time consuming. Both interviewees agree that this success factor is one of the most important factors to retain knowledge.

Employees qualification for sharing knowledge

All three respondents indicate that this factor is tremendously important for the efficient development of the IT outsourcing project, meaning that the knowledge will be shared well. Both the contract manager as well as the IT service provider mentioned that the user of the

outsourced application has more difficulties to communicate what eventually causes inefficient knowledge transfer. The IT provider as well as the director of the division Administrative Services Center at the university analyze the qualifications of the personnel that will participate in the workshops and presentations so that knowledge is effectively shared through their colleagues, allowing to retain the knowledge. The same is done by the administrative department for property and campus at the university but, unfortunately, the trained employees are not optimally used, which might lead to knowledge loss.

Efficient knowledge transfer

Both companies provide workshops allowing knowledge to be transferred and shared. As already mentioned in the previous success factor, trained personnel will attend these presentations and workshops. Both companies use intranet to communicate, share and read all the necessary knowledge regarding the IT applications. Questions can be shared through the intranet allowing other staff to read and answer them. The IT provider uses its own intranet application and the university uses a third party software called Yammer. Yammer is known for its effective use of internal communication allowing to retain knowledge. Unfortunately, the university did not integrate the software well with the personnel and did not reach an optimal use for the latter. None of the companies are using other tools to retain knowledge. The IT service provider indicated that the efficiency of sharing crucial knowledge with internal employees is better than when shared with external employees. There is a need for mutual trust before knowledge can be transfer correctly.

Organizational culture

As a matter of fact, the IT service provider points out that the company maintains a culture where preserving knowledge is encouraged by creating mutual trust. The university indicates that a few years ago, another culture was still present in which knowledge sharing had no priority. Recently though, it adapted to an open culture where knowledge transferring and preserving is encouraged. The university did this by introducing yammer and promoting teamwork on several internal projects. The contract manager as well as the director of the IT service provider argue that the success factor organizational culture is less important than other success factors considering IT outsourcing. The director of the division Administrative Services Center at the university mentioned that due the right organizational culture, knowledge is more effectively retained from the supplier. Moreover, only the IT service provider mentioned that they compared the culture difference between them and the potential suppliers.

The director of the division Administrative Services Center at the university argued that they moved to another supplier partly due the culture difference. Nevertheless both companies clearly find this success factor important to retain knowledge within the organization.

Proper communication and mutual trust

The IT service provider as well as the director of the division Administrative Services Center at the university emphasize the essence of this success factor. Knowledge retention is not optimized if there is no trust with the supplier. In addition to the described SLAs, trust will be created during the several stages of the IT outsourcing activity. Continuous communication with both internal staff and external staff ensures that the permanent employees know what knowledge can be shared and what should be retained. The IT service provider keeps an ongoing dialog with the permanent employees as well with the external employees by arranging workgroups and the intranet. The contract manager and the director of the university pinpoint that due to the change of culture, internal communication and trust are improved. This enhanced the communication effectiveness with the suppliers. Nevertheless, the employees at the department for property and campus from the university are not well informed about the different outsourcing projects and the new developments. It seems that the employees are better informed at the division Administrative Services Center, as the director mentioned.

Avoid threatened litigation in contract termination

Both the IT service provider and the university clearly indicated that some legal points are described within the contract with respect to knowledge sharing in the case of contract completion or premature termination. Nevertheless, the risk of losing knowledge was not taken into account in the case of the contract manager nor in the case of the IT service provider. The director of the IT service provider feels that they should include this within the decision period. The director of the division Administrative Services Center at the university pinpoints several contract elements for transferring, sharing and retaining knowledge. Within the contract, it is also clearly described what will happen if the supplier does not cooperate. As previously stated, both companies have some key persons appointed such that knowledge is retained when a contract expires or is terminated prematurely.

A strategic knowledge-based decision

The interviewees gave little information concerning this success factor and it partly has to do with the fact that they simply do not know about it. The university contract manager mentioned during the final part of the interview to believe this success factor is important, but is not yet used in practice. This is perhaps because the IT applications do not belong to the core competencies of the university. The director of the IT service provider reveals that they also were not aware of the strategic value and maturity of failed IT outsourcing project. The director of the division Administrative Services Center at the university argued that he has the experience to realize when knowledge is of strategic value even though he has never recognized a situation in which knowledge is of strategic value.

Additional components

The IT service provider and the director of Administrative Services Center indicate that it is important to analyze which suppliers you are dealing with because you might be in for the long haul with them. By working with the right supplier that fits with the outsourcing organization, mutual confidence will increase. This in turns boosts knowledge sharing to and from the supplier, which leads to knowledge retention. Clearly what knowledge should be retained from the supplier needs to be defined, allowing the employees to work efficiently. Furthermore, an outstanding relationship with the supplier is a must to work efficiently but also to retain the necessary knowledge from the supplier.

The 7 critical success factors that have been tested in practice and subsequently analyzed are displayed below in table 6.1. The table displays the results of every interviewee's perception of the success factors, and their roles in knowledge retention, within their respective companies.

Critical Success Factors		University		IT service provider
		Director	Contract manager	Director
1	Top management support and awareness			
2	Employees qualification for sharing knowledge			
3	Efficient knowledge transfer			
4	Organizational culture			
5	Proper communication and mutual trust			
6	Avoid threatened litigation in contract termination			
7	A strategic knowledge-based decision			

Table 6.1 CSFs overview in practice

Confirmed and present

Confirmed but not present (or does not know)

Not optimal integrated but present and confirmed

8. Conclusion

This study is aimed at describing the success factors for knowledge retention in IT outsourcing. IT activities that are, or will be, outsourced are becoming more complicated and complex every day. Often these complex IT activities are connected to the core activities of the company, which makes it even more risky to outsource them. Besides, it is important for companies to develop and maintain strategic crucial knowledge in order to stay ahead of competition. These developments indicate that maintaining knowledge through, for example, efficient knowledge sharing is an important activity, along with carefully considering what knowledge should be shared with the supplier. This research has been able to deliver proper contribution to the exploration of the critical success factors for knowledge retention with IT outsourcing, both on the theoretical as well as the practical side. A literature research has been conducted regarding the subjects of knowledge and IT outsourcing and a few articles describing the knowledge retention combined with IT outsourcing have been analyzed. Consequently, several theoretical critical success factors were identified and then tested in practice on the basis of case studies at two companies.

The results from the theory are composed of seven critical success factors that are relevant for an organization to maintain efficient knowledge when IT activities are outsourced. The seven critical success factors conclude that employees need to be motivated by their manager to indicate that knowledge retention is an important factor when the company outsources IT activities. The manager or supervisor has to continuously make connections between the daily operations on the work floor and the strategic policies of the organization. Furthermore, top management should also be aware and prepared at the pre-outsourcing stage by analyzing what knowledge should be transferred to and from the supplier. This helps preventing crucial knowledge loss when outsourcing IT activities.

Companies should not underestimate the importance of the employees' qualification for sharing knowledge. The employees that have relevant competences will help to determine the success of the service that the supplier will provide to the outsourcer. Moreover, creating support and commitment to collaborate and share knowledge in both organizations is of tremendous importance for the efficient transfer of knowledge. It is also important for somebody to know who to refer to in order to access the right knowledge by using sever tools such as an intranet system. Nevertheless, if there is a culture atmosphere of trust, people are

more likely to find it important to share knowledge with each other and contribute to what happens with that knowledge. Communication is an important part of culture in an organization.

It is also relevant to analyze how communication takes place between the management and the employees, but also how employees interact with each other. Communicating effectively is very crucial not only during the outsourcing period but also during the creation of the outsourcing contract. If there is no clear communication with the personnel, uncertainties can arise. Furthermore a successful outsourcing relationship will flourish trough creating mutual trust. To do so, the supplier must be controlled properly and both the supplier and the outsourcer should be able to communicate well together by making clear agreements in advance. Additionally it is for the outsourcer as well for the supplier important to know what is going on during the whole outsourcing period. This makes it easier for both parties to support each other. Also concern about the responsibilities that need to be transferred, not only at the initial closing of an IT outsourcing contract, but also when a new contract will be given to another IT supplier at the end of the term. Finally when deciding to outsource IT activities, possible strategic knowledge loss costs should be taken into account. Not all knowledge is of strategic importance. On the basis of the value of the knowledge and maturity, a division of four quadrants can be designed. Companies should analyze their knowledge through this framework when outsourcing IT activities.

Subsequently, the theoretical success factors are transformed into relevant questions for creating the questionnaire and presented to individuals who have experience with IT outsourcing or actually use the outsourced IT software. Both organizations whose employees were interviewed have implemented various IT outsourcing projects of different sizes and costs. Not all of these IT outsourcing projects were successful which makes it possible to conclude what these companies have learned from it, regarding knowledge retention. The insights from practice are used to analyze the theoretical success factors. During these interviews, it was also asked whether the respondents found additional relevant success factors than the theoretical success factors presented above. None of the interviewers came up with additional success factors. Nevertheless the interviewees made some interesting comments about the theoretical success factors.

It is remarkable that the companies of the interviewees do not pay so much attention to the value of the knowledge they have. Furthermore, the retention of knowledge is of little priority

both during the decision period and the entire outsourcing phase. It is also noticeable that at the university not all divisions are using the same vision regarding how to motivate and inform employees as well as how knowledge needs to be retained. This implies that the top management of the university should work more closely together. Concerning the success factors for knowledge retention in IT outsourcing, the examples of practice lead to the conclusion that all theoretical success factors have a positive effect on the actual outsourced IT operations. However, two of the three interviewees explained that not all the success factors are equally important, and especially three of them prominently stand out as the most important ones. The success factor "Top management support and awareness" appears to play a major role at both organizations. The interviewees argued that the motivation and commitment of the management to the employees promotes knowledge sharing. Knowledge loss will be minimized if knowledge is shared optimally with the internal and external employees. A knowledge policy does not (yet) exist within the companies, but it is stated that they are working on it. The success factor "Efficient knowledge transfer" is also a common success factor in practice. Both companies arranged several workshops for optimally transferring knowledge to the supplier. Moreover, an intranet is present at both companies ensuring that knowledge is well preserved within the company. However, both interviewees from the university explained that there was no training or workshop on how to use the intranet. Finally, the director of the IT service provider and from Administrative Services Center at the university emphasized that trust is a very important part for optimal knowledge retention. This falls under the success factor "Proper communication and mutual trust". The employees should be properly informed about the several IT outsourcing situations and to which degree they will be implicated with the latter. If the situation is made clear to the employees, then knowledge will ultimately be retained. It is also extremely important to create confidence with the supplier, which can be done by, for example, researching some references from the suppliers during the selection procedure.

Further research on the topic at hand should certainly be conducted for several reasons. First, the number of cases was fairly limited in this study as well as the variety of the industries. Another limitation is that there was only one interviewee representing each company. More interviewees per company might yield different results and so might the analysis of supporting documents. Therefore, the scope of this study should be extended to a bigger scale. Second, the research could also be conducted from a different perspective, the one of the supplier. Finally, it would be interesting to investigate what the differences in knowledge retention are

between offshoring or on- shoring. Indeed, offshoring might lead to a different firm environment in terms of culture, language and communication. Changes in the latter might impact how knowledge retention can be done effectively.

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10. Appendices

Appendix 1: Interview

Introduction
The data will only be used to support this research and will be treated in strict confidence. The interviews will be recorded using an audio recorder and will only be used for the production of results within this research. The final results will be incorporated anonymously into the research. No relationship will be established between your personal data and the answers given by you. The goal of the research is to test the theory in practice with the following research question: What are the critical success factors enabling the retention of knowledge when outsourcing IT activities?

1. **Organization and you.:**
   - Name:
   - Position:
   - Years of experience:
   - Experience in the field of IT outsourcing:

1.1. Introduction of the interviewee
   - Can you tell me something about yourself, how you've arrived at this position and could you tell me what your job precisely is?
   - How is your organization structured and in which part of the organization are you working in?

2. **General aspects of outsourcing:**
   - Give a brief description of an outsourced IT activity.
   - What is the duration of the outsourcing contract?
   - Has the outsourcing contract already been extended once? Please develop in detail.
     ……
     ……
     ……
   - Are the outsourced IT activities of strategic importance? Please develop in detail.
     ……
     ……
     ……

3. **What are the main reasons for choosing to outsource IT activities in your organization? (multiple answers possible)**
   A. Realizing cost savings
   B. Having a better picture of the actual costs
   C. Freeing time and space in the (IT) department
   D. Focusing on core competencies
   E. Gaining access to knowledge and expertise of the supplier
   F. Reducing the risk of obsolete technology
   G. Obtaining strategic advantage
   H. Improving the quality of the process
   I. Not staying behind the rest of the market
   J. Other .....

4. IT outsourcing decision procedure

4.1. In the IT outsourcing decision several factors must be taken in to account. Is knowledge loss also a factor during the decision process?

A) Yes. How is it assessed?

……
……
……

B) No, because?

……
……
……

4.2. When determining the budget are there any possible costs related to loss of knowledge taken into account?

A) Yes. Can you give some examples ?

……
……
……

B) No, because?

……
……
……

4.3. Which outsourcing decision will be made if knowledge is of strategic value? For example by making the IT activities in-house or outsourcing with structured knowledge sharing.

4.4. Is attention paid to the comparison and analysis of the cultural properties to potential suppliers?

4.5. Which people, functions, departments are part of the previously mentioned outsourcing decision and what influence do these people have on the decision?

5. Communication, culture and personnel within the organization

5.1. Which culture does the organization use and do you agree that this culture is optimal for knowledge sharing.?

5.2. Is confidence in the provider an important part in outsourcing and how is it measured?

A) Yes. Because?

……
……
……

B) No, because?

……
……
……

5.3. How is it ensured that knowledge is shared optimally with the supplier?

5.4. Do you agree that the top management motivates employees to share knowledge and shows how important it is for the organization?

A) Yes. How do they do that?

……
……
……

B) No, because?

……
……
……

5.5. Is there a certain knowledge policy present? For example, a policy about what knowledge should not be shared, how it should be stored and who is responsible for it.

A) Yes, how is it formulated?

……
……
……

B) No, because?

……
……
……

5.6. How are the people who are involved during the outsourcing project informed about the structure of sharing knowledge from and to the supplier?

5.7. If applicable, which persons are responsible for the proper identification, selection, distribution and storage of knowledge?

5.8. When appointing personnel for the IT outsourcing project, is the personnel's quality and experience in effective knowledge sharing checked? How is this done?

5.9. Do you think that the organization is doing enough for knowledge sharing with other departments in case of IT outsourcing? For example seminars, workshops, intranet, etc.

A) Yes, because?

……
……
……

B) No, because?

……
……
……

6. Contract Agreements, termination and follow-up contract

6.1. Are there clearly established SLAs (Service Level Agreements) with respect to the retention of knowledge?

6.2. Is there devoted thought to securing knowledge regarding returning staff (who were previously employed by the supplier) at the end of a contract or otherwise, through the acquisition of employees of the supplier?

6.3. Is there devoted thought to securing knowledge regarding architecture and configuration management?

6.4. Are the conditions in the case that the contract should prematurely be terminated clearly stated?

6.5. How do you prevent that running projects will not be delayed by the lack of interest from the supplier once it has been announced that a contract is terminated? (e.g. no interest in sharing the knowledge)

6.6. What is the situation with regard to the ownership of developed software? For example, the portability and maintenance of the developed software?

6.7. With regard to cooperation from the supplier to transfer IT project elements, in the case of moving to another supplier, is there something arranged with respect to the availability of key people with knowledge during the transition period?

6.8. After moving to another supplier, the old supplier may no longer have access to information. Confidential information concerning the negotiations are located on the hardware from one of the parties. Are there agreements on how to remove or change users' IDs and passwords for the software when changing suppliers?

6.9. Is contract termination handled internally or are external people hired to handle it?

7. Overall IT outsourcing questions regarding knowledge retention.

7.1. Did knowledge loss occur when performing IT outsourcing? If so, what knowledge has been lost in outsourced IT projects?

7.2. If knowledge was lost, were there any measures added to prevent it to happen in the future?

A) Yes. What measures?

……
……
……

B) No, because?

……
……
……

7.3. Can you give an example where knowledge is effectively preserved in outsourcing IT activities?

8. Closing interview

8.1. Looking only at the knowledge retention aspect of IT outsourcing: do you agree that the company maintained knowledge efficiently and in the right way? Would you have done something differently?

8.2. The theoretical success factors are as follows (Sheet with short explanations already read (h4)). Do you agree that these theoretical success factors are also found in practice?

A) Yes. Which ones?

……
……
……

B) No. Why?

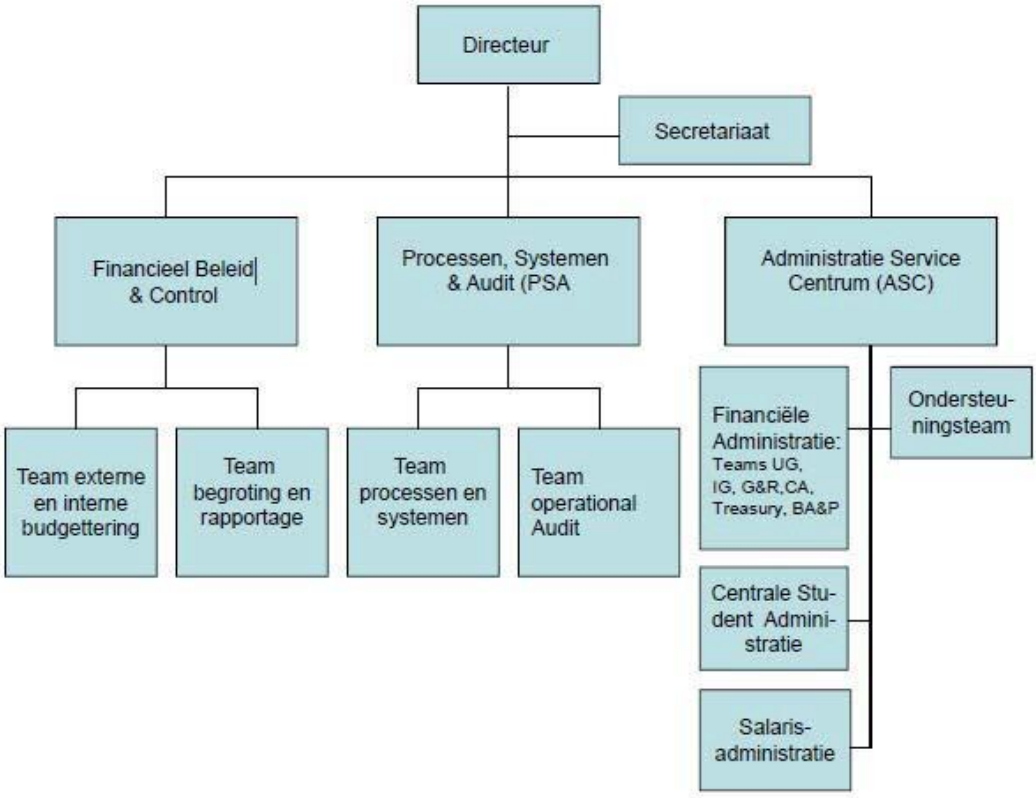
……
……
……

C) What factors could be added?

……
……
……

Appendix 2: Organogram

De directie Financiën, Control & Administratie bestaat uit drie onderdelen:
- Financieel Beleid & Control
- Processen, Systemen & Audit
- Administratief Service Centrum (ASC)



De accountmanager fungeert als intermediair tussen het ASC en de klant en is de gesprekpartner van de directies/controllers van de klanten.
Hij heeft als taak, op basis van de overeengekomen Service Level Agreement, de relatie tussen de klant (faculteit, dienst of gerelateerde instelling) en het ASC te optimaliseren en verder uit te
bouwen.

Frontoffice financiële administratie

Bij financieel administratieve vragen of problemen kan je contact opnemen met het Het frontoffice is op werkdagen telefonisch bereikbaar van 8.30-12.00 en 13.00-16.30 uur. Voor vragen of verzoeken kan ook de Self Servicedesk [3] gebruikt worden.

Financieel Beleid & Control

De afdeling Financieel Beleid & Control ondersteunt het College van Bestuur op het terrein van het financiële beleid en control van de Universiteit ******. Daartoe worden de externe en interne ontwikkelingen geanalyseerd en door vertaald naar het interne beleid. De afdeling onderhoudt nauwe functionele banden met faculteiten en diensten, in het bijzonder met de daar aangestelde controllers. Ook decanen en directeuren van de faculteiten en diensten kunnen bij Financieel Beleid terecht voor advies.

De afdeling Financieel Beleid & Control is verantwoordelijk voor het goed functioneren van de universitaire planning en control cyclus. Het betreft de jaarlijkse cyclus van kaderbrief, begroting, kwartaalrapportages en jaarrekening. De afdeling beheert het interne verdeelmodel voor de allocatie van de rijksbijdrage.

Processen, Systemen & Audit

De afdeling Processen, Systemen & Audit draagt zorg voor de planning en uitvoering van aanpassingen in de geautomatiseerde systemen in het financiële domein en de daaraan verbonden administratieve processen. Voorts houdt de afdeling zich bezig met het risicomanagement rond de financial en operational control van de Universiteit ******. Het team voert in opdracht van het College van Bestuur operational audits en bijzondere opdrachten uit. Het werk vloeit voort uit een jaarplan, waarin onder meer enkele bestuurlijk relevante audits en enkele compliance audits zijn opgenomen. De afdeling draagt tenslotte zorg voor de afstemming met de externe accountant.

Het Administratief Service Centrum (ASC)

Het ASC heeft als missie de snelle en juiste verwerking van transacties en de registratie van gegevens op de terreinen financiën, personeel en studenten van de Universiteit ******.

Het ASC heeft vier afdelingen:

1. Financiële administratie (inclusief ondersteuningsteam)
2. Personeelsadministratie/Salarisadministratie
3. Concernadministratie/Treasury
4. Centrale Studentenadministratie
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Voor akkoord,

IJsbrandy, Quinten

Datum: **30/05/2014**