Kati Pauliina Välimäki

IMPLEMENTING AN ERP-SYSTEM

IN A FINNISH SME-COMPANY

International Business

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FOREWORD

I started my thesis project mainly in spring 2010. I held my mid-seminar already in December 2009, because I had already discussed with our managing director at work Juha Palonen about my subject while it was a contemporary subject at the factory. In February and March I studied the material about strategic management and ERP-systems and wrote the biggest part of the theory. After that I was forced to go back to work full-time to earn some money. While I was working I pushed the co-workers to answer the questionnaires that I had prepared for them. In June 2010 I acted as a opponent and had most of the things done except the research written down and the conclusions. During the summer I had to work full time and there was no time for thesis work, but when autumn came I was able to conclude the project.

While being a student in Vaasa University of applied sciences I have been working in Suomen Lämpöpuu Oy, so the methods and the ways of working there have become familiar to me.

I want to thank Suomen Lämpöpuu Oy's managing director Juha Palonen and the First Assistant Raija Männistö, who gave me good advice and help with my work. Secondly, I also want to thank my supervisor Satu Lautamäki who had patience with me and gave me excellent instructions. Thirdly, I want to thank my family and friends who have supported me and encouraged at times when it has been tough. And finally I will give my special thanks to Maj-Lis Backman, who has supported me and our class the entire time while we have been students at Vaasa University of Applied Sciences.

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ABSTRACT

Author	Kati Välimäki
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This thesis studied strategic management, strategic planning and enterprise resource planning in an SME-company in Finland. The subject is important and interesting because smaller companies are nowadays using more and more strategic planning methods and ERP-systems to manage the company.

Strategic management and planning are vitally important to a company and when exploited correctly those are keys to success for a company.

The goal of this thesis is to learn from the small company's perspective which are the most important elements when implementing an ERP-system and which the defects are in the whole process.

The theoretical framework provides guidelines and understandings of how strategic management can be used and ERP-system can be successfully implemented in an organization.

The questionnaires were conducted within Suomen Lämpöpuu Oy and have been reviewed in the empirical research. In this study the qualitative method is used. The purpose and the methods of qualitative research suited for this investigation since a case company is used for the study.

The findings showed that the company should find proper process guidelines and follow those to get the implementation process correctly done and the ERP-system in use. The implementation is not an easily conducted thing in a small company.

In the conclusions, the case company's implementation process is evaluated and suggestions and recommendations for further actions are given.

Keywords	ERP, Enterprice Recource Planning, ERP-system, SME, implementation, Suomen Lämpöpuu Oy,

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TIIVISTELMÄ

Tekijä	Kati Välimäki
Opinnäytetyön nimi	ERP-järjestelmän käyttöönotto suomalaisessa pk-yrityksessä Case-yritys Suomen Lämpöpuu Oy
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Tämä lopputyö tutki strategista johtamista, strategista suunnittelua ja toiminnanohjausta pk-yrityksessä Suomessa. Aihe on tärkeä ja kiinnostava, koska pienemmät yritykset ovat nykyään alkaneet yhä enemmän käyttämään strategisen suunnittelun metodeja ja toiminnanohjausjärjestelmiä yritysten johtamisen välineinä. Strateginen johtaminen ja suunnittelu ovat tärkeitä yritykselle ja kun niitä käytetään oikein, ne ovat avaimia menestykseen.

Tämän lopputyön tavoite oli oppia pk-yrityksen näkökulmasta, mitkä ovat tärkeimmät elementit ERP-järjestelmän käyttöönotossa ja mitkä ovat prosessin epäkohtia.

Teoreettinen viitekehys kuvaa, kuinka strategista johtamista voi onnistuneesti käyttää ja ERP-järjestelmä otetaan onnistuneesti käyttöön organisaatiossa.

Kyselyt toteutettiin Suomen Lämpöpuu Oy:ssä ja niitä analysoidaan empiirisessä tutkimuksessa. Tässä työssä on käytetty kvalitatiivista metodia. Kvalitatiivisen tutkimuksen tarkoitus ja metodit sopivat tähän tarkoitukseen, koska kohteena oli case-yritys.

Löydökset osoittivat, että yrityksen tulee etsiä kunnolliset ohjeet ja noudattaa niitä saadakseen käyttöönottoprosessi onnistumaan kunnollisesti ja saadakseen ERP-järjestelmä käyttöön. Käyttöönotto ei ole helposti toteutettavissa pienessä yrityksessä.

Johtopäätöksissä arvioidaan case-yrityksen käyttöönottoprosessia ja ehdotetaan jatkotoimenpiteitä.

Asiasanat	ERP, tuotannonohjaus, tuotannonohjausjärjestelmä, ERP-systeemi, käyttöönotto, PK, Suomen Lämpöpuu Oy

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1 INTRODUCTION

The background for this thesis is the researcher's own personal work experience and the practical training period at Suomen Lämpöpuu Oy. This company is later referred as SLP in this thesis. The researcher started to work in SLP as a trainee for three months and after that continued working there for the rest of that summer. Later on she has been working there as a Second Assistant.

SLP is a small company and during the time that the researcher has been part of the organization there has been somewhat big changes. The managing director has changed and as a consequence of that some new policies and programs have been taken into use. One of the big changes has been an attempt to implement an ERP-system and starting to use it as a part of the daily routine in the company.

ERP is an acronym of Enterprise Resource Planning. ERP systems definition requires a centering of multi-module applications software packages, which integrate activities of different functional departments. It is important to know that the term ERP includes the software aspects and also an effective combination of business strategies, users and the hardware that are required to run the ERP software. (ERP Implementation 2007)

In other words ERP is an industry term for the broad set of activities that helps a business to manage the important parts of its operations. The information made available through an ERP system provides visibility for key performance indicators that are required for meeting corporate objectives. ERP software applications can be used to manage product planning, parts purchasing, inventories, interacting with suppliers, providing customer service, and tracking orders. ERP can also include application modules for the finance and human resources aspects of a business. (Brislen and Krishnakumar 2010)

The implementation process of ERP was chosen as the subject of this thesis for a few reasons. Firstly, this might be a good opportunity to learn in depth about this subject and learn to understand the reasons why these kinds of systems are used in practice.

Secondly, the researcher wanted to evaluate and analyze how a small company implements an ERP-system and how the employees get on with it. Is the ERP-system as useful in practice as it is in theory?

Thirdly, it will be interesting to study and observe how things change in Suomen Lämpöpuu Oy and do the customers notice the change and what they think about the change.

The topic is important and interesting for all types of companies in general, but especially for small and medium-sized companies which may not have enough resources to successfully implement an ERP-system. This study aims to give new insights into the challenges and possibilities of ERP-systems in SME companies.

1.1 Aims of this thesis

The main goal of this thesis is to describe the total implementation process of an ERP system from its planning stage to its actual realization and use. This research is trying to give a comprehensive picture about the ERP-system in a use of a small company in case. The goal is to outline how the system affects the operation models in the company. This subject is very current in SLP because of the implementation of the new ERP-system.

In order to reach the main goal, the following objectives are set. The first objective is to theoretically analyze the factors affecting the ERP implementation. Both strategic management and planning, just in time and enterprise resource

planning will be described in order to understand how ERP should be implemented. The second objective is to empirically analyze how ERP-system is used in the case company Suomen Lämpöpuu Oy (SLP). A qualitative, small-scale study within this company is conducted and the results will be presented.

In this thesis the concentration is on the new and better procedures and to the advantages and savings that are caused by the ERP-system.

Theory always describes the most idealistic way of a process and the practice then shows how it really went. The process will be analyzed and observed, what was done smoothly and what could have been done better.

Concerning the advantages the focus will be on the evaluation and what these advantages might be. The actual advantages will take shape after some time has gone by and the employees have started to master the new system and the new operations. That takes time and would need a longer time of observing.

1.2   Introducing the outline of this thesis

In the first chapter, a brief introduction to the subject of the thesis is given and the aim of the research is defined.

The second chapter describes the factors that are affecting the ERP-implementation. The subjects that are included there are strategic management, strategic planning in a SME-company and ERP itself is defined along with a presentation about the ERP adaption process and the advantages and disadvantages of ERP.

The third chapter is about the conducted empirical study. The research approaches and data collecting methods are presented. Also the case study and the case

company and the conducted questionnaire are introduced. In this third chapter also the reliability and validity of the thesis are evaluated.

The fourth chapter presents the conclusions of the study. Based on the empirical results, some recommendations are given for the company how to continue with the implementation process.

2 FACTORS AFFECTING ERP IMPLEMENTATION

In this chapter, first, the concepts of strategic management and strategic planning in a company will be introduced. The strategies are the driving forces behind the implementation of ERP systems. Also, the just-in-time –method (JIT) will be briefly described. Another major focus in this chapter will be on the enterprise resource planning which will be opened up.

2.1 The role of strategic management

Strategic management can be used to determine for instance mission, vision, values, goals, objectives, roles and responsibilities, and timelines, etc. (Pim 2004)

In its broadest sense, strategic management is all about taking "strategic decisions". In practice, a thorough strategic management process has three main components, shown in the following figure:
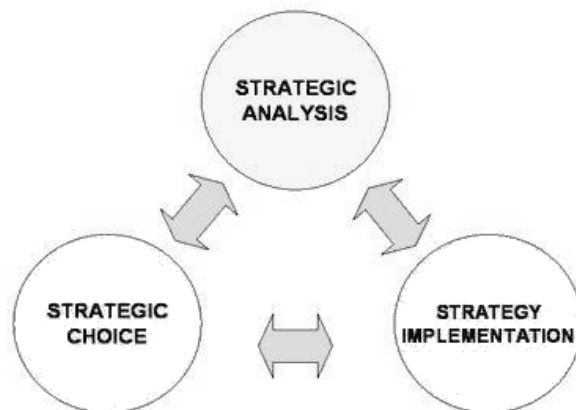

Figure 1.   The three main components of strategic management process
(Tutor2u 2009)

Strategic analysis is all about analysing the strength of businesses' position and understanding the important external factors that may influence that position. Strategic choice -process involves understanding the nature of stakeholder expectations (the "ground rules"), identifying strategic options, and then evaluating and selecting strategic options. Strategy implementation is often the hardest part. When a strategy has been analyzed and selected, the task is then to translate it into organizational action. (Tutor2u 2009)

Strategic management is used when defining business, stating a mission, and forming a strategic vision for a company. Strategic management includes five main tasks. Setting up measurable objectives is one of the tasks. Crafting a strategy to achieve objectives is also important. And after that comes naturally implementing and executing the strategy. Last, but not least is the evaluating of performance, reviewing new developments, and initiating corrective adjustments. (Irwin 1995)

Strategic management is of vital importance as CEOs and managers have to constantly re-evaluate the strategy management models and implement change and improvement wherever needed in their company. To understand the real importance of strategic management, it is needed to know something about the most effective strategies available to the companies and also build the knowledge on strategic management theory that has been tried and tested by the experts. (Heller and de Bono 2010)

The managers of companies and organizations constantly have a bad conscience because they do not sacrifice enough time, resources, and attention for strategic questions that they would deserve. There are three main reasons for this "negligence". The first reason is that the strategic questions are never as acute as the operative problems. Operative problems occur automatically and demand for instant procedures. When operating in a dynamic environment, the operative questions roll over the strategic questions. The second reason is that many managers do not know how to do effective and successful work with strategies –

in other words how the resources are used economically and value is produced without high costs. The third important reason is that it is difficult to compensate the long-term and anticipatory work with strategies. It is often that the ones that have been doing the hardest work with the strategies are left out when rewarding personnel. (Bengt 2004, 22)

The strategies in top companies are not improved in a few days or weeks or even in a few months. These strategic plans are developed during several years or even decades after numerous insights, ideas, drafts, trials, and new experiments. In these top companies the leading strategist is the main leader, in other words the CEO, Chief Executive Officer. He is the one who discusses the strategy with his executive group and with the persons of his choice about how to form the strategy. He is the one who presents the strategy to the board and the board either accepts it or not. Every strategist is bound with his own experiences and visions. When deciding the plans the hardest questions are the new ones and the ones that include new risks. The ways of acting with risks are individual and evaluating the risks happen by using own experiences. (Kostamo 2001, 23)

2.1.1 Strategy

Behind the word strategy there is a Greek word stratigos, which means General. Stratigos then becomes from words stratus, the army, and agein, to lead. From the time of the antiquity, the best known strategists are the Athens's board of strategist. These strategists adjusted the military concepts and the ways of dominate to gain political goals against the adversary. (Bengt 2004, 19)

Every strategy is different from each other. No strategy is developed to be "re-enjoyed" like books or compositions. The situations that require a strategy are never the same and those situations cannot be answered with "one book or composition". Forming a strategy is not composing. Forming the strategy can be

more correctly compared to improvisation of a musician or band. Strategy theories are "melodies and melodic", that are taken into use by the main strategist, but the strategy itself becomes real when it is played out, in other words when delivered. If you necessarily wanted to compare strategy to a composition, it could be done by noticing that the "strategy-composition" can be used only once. At least it should be orchestrated again when taken into use for the next time. (Kostamo 2001, 24)

Strategy is the direction and scope of an organisation over the long-term: which achieves advantage for the organisation through its configuration of resources within a challenging environment, to meet the needs of markets and to fulfil stakeholder expectations. (Tutor2u 2009)

Nowadays in business economics the word strategy is understood as attempts and goals and also the progress towards those. A strategy can be described as persistent and comprehensive businessman skill. Because of this it is broader, more far reaching and wider concept than operative management. While working with strategies it is important to work with both: the contents and the process – in other words both questions, what and how, should be taken into consideration. (Bengt 2004, 19)

2.1.2 What is strategic planning?

Strategic planning is a tool for management. Strategic planning is used for one purpose: to help an organization to do a better job, to focus its energy, to ensure that members of the organization are working toward the same goals, to assess and adjust the organization's direction in response to a changing environment. Strategic planning is a respectable effort to produce fundamental decisions and actions that shape and guide what an organization is, does, and why, with a focus on the future. Being strategic means being clear about the organization's

objectives, being aware of the organization's resources, and incorporating both into being consciously responsive to a dynamic environment. (Pim 2004)

The process is about planning because it involves intentionally setting goals and developing approaches to achieve the goals. The process is honorable when it calls for a certain order and pattern to keep it focused and productive. The process raises a sequence of questions that help the planners to examine experience, test speculations, gather and incorporate information about the present, and anticipate the environment in which the organization will be working in the future. The process is also about fundamental decisions and actions because choices must be made in order to answer the sequence of questions mentioned above. The plan is ultimately no more, and no less, than a set of decisions about what to do, why to do it, and how to do it. Because it is impossible to do everything that needs to be done in this world, strategic planning implies that some organizational decisions and actions are more important than others. (Pim 2004)

The strategic planning can be complex, challenging, and even messy, but it is always defined by the basic ideas that are mentioned previously. (Pim 2004)

Strategic planning determines where an organization is going over the next year or more, how it is going to get there and how it will know if it got there or not. The focus of a strategic plan is usually on the entire organization, while the focus of a business plan is usually on a particular product, service or program.
(McNamara, Carter 2010)

There are a variety of perspectives, models and approaches used in strategic planning. Things that affect the development of a strategic plan are: the nature of the organization's leadership, culture of the organization, complexity of the organization's environment, size of the organization, expertise of planners, etc. For example, there are a variety of strategic planning models, including goals-based, issues-based, organic, and scenario. (McNamara, Carter 2010)

Goals-based planning is probably the most common and starts with focus on the organization's mission, vision and/or values, goals to work toward the mission, strategies to achieve the goals, and action planning; who is going to do what and by when and why. Issues-based strategic planning often starts by examining issues facing the organization, strategies to address those issues, and action plans. (McNamara, Carter 2010)

Organic strategic planning might start by articulating the organization's vision and values and then action plans to achieve the vision while adhering to those values. Some planners prefer a particular approach to planning, for example appreciative inquiry. Some plans are scoped to one year, many to three years, and some to five to ten years into the future. Some plans include only top-level information and no action plans. Some plans are five to eight pages long, while others can be remarkably longer. (McNamara, Carter 2010)

Quite often, an organization's strategic planners already know much of what will go into a strategic plan. However, development of the strategic plan greatly helps to clarify the organization's plans and ensure that key leaders are all "on the same manuscript". Far more important than the strategic plan document, is the strategic planning process itself. (McNamara, Carter 2010)

2.1.3 Strategic management for SME's

Strategic planning and strategic management were for long less important for the economic situation of most companies than comparatively high stability, the low speed of change in the most significant factors and a high degree of understanding of the business. Today, a company with no strategic planning and management system is like a car driver who races forward with his eyes firmly fixed on the rear-view mirror. (Kappler 2004)

The strategic management process is dynamic and continuous. A change in one component can necessitate a change in the entire strategy. As such, the process must be repeated frequently in order to adapt the strategy to environmental changes. Throughout the process the firm may need to cycle back to a previous stage and make adjustments. (NetMBA 2010)

Even the best balance sheets and profit and loss accounts never provide enough information on the long-term and permanent capability of a company to remain in business. Operative tools say nothing to us about the health of a business. (Kappler 2004)

One model of strategic management process consists of six stages (see figure 2.), which are mission, objectives, situation analysis, strategy formulation, implementation, and control. (NetMBA 2010)
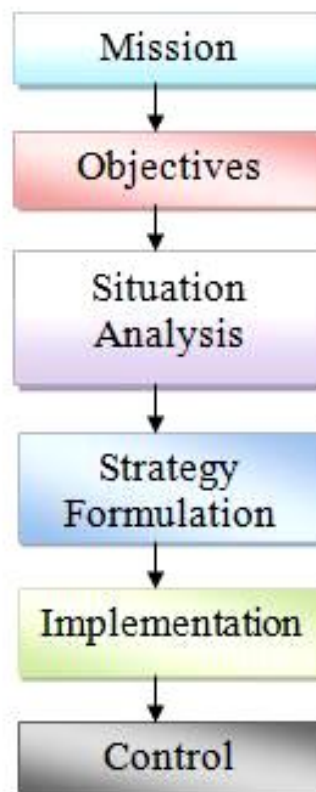

Figure 2. Strategic Management process model with six stages (NetMBA 2010)

A company's mission is its reason for being. The mission is often expressed in the form of a mission statement, which conveys a sense of purpose to employees and projects a company image to customers. In the strategy formulation process, the mission statement sets the direction of where the company should go. (NetMBA 2010)

Objectives are concrete goals that the organization seeks to reach. The objectives should be challenging but achievable. They also should be measurable so that the company can monitor its progress and make corrections as needed. (NetMBA 2010)

When the objectives have been specified, company can begin with its current situation to devise a strategic plan to reach those objectives. Changes in the external environment often present new opportunities and new ways to reach the objectives. An environmental scan is performed to identify the available opportunities. The firm also must know its own capabilities and limitations in order to select the opportunities that it can pursue with a higher probability of success. The situation analysis therefore involves an analysis of both the external and internal environment. (NetMBA 2010)

The external environment has two aspects: the macro-environment that affects all firms and a micro-environment that affects only the firms in a particular industry. The macro-environmental analysis includes political, economic, social, and technological factors and sometimes is referred to as a PEST analysis. An important aspect of the micro-environmental analysis is the industry in which the firm operates or is considering operating. Michael Porter devised a five forces framework that is useful for industry analysis. Porter's 5 forces include barriers to entry, customers, suppliers, substitute products, and rivalry among competing firms. (NetMBA 2010)

The internal analysis considers the situation within the firm itself, such as company culture, company image, organizational structure, key staff, access to natural resources, position on the experience curve, operational efficiency, operational capacity, brand awareness, market share, financial resources, exclusive contracts, and patents and trade secrets. (NetMBA 2010)

A situation analysis can generate a large amount of information, much of which is not particularly relevant to strategy formulation. To make the information more manageable, it is sometimes useful to categorize the internal factors of the firm as strengths and weaknesses, and the external environmental factors as opportunities and threats. Such an analysis often is referred to as a SWOT analysis. (NetMBA 2010)

While different firms have different alternatives depending on their situation, there also exist generic strategies that can be applied across a wide range of firms. Michael Porter identified cost leadership, differentiation, and focus as three generic strategies that may be considered when defining strategic alternatives. Porter advised against implementing a combination of these strategies for a given product; rather, he argued that only one of the generic strategy alternatives should be pursued. (NetMBA 2010)

For effective implementation, the strategy needs to be translated into more detailed policies that can be understood at the functional level of the organization. The expression of the strategy in terms of functional policies also serves to highlight any practical issues that might not have been visible at a higher level. In addition to developing functional policies, the implementation phase involves identifying the required resources and putting into place the necessary organizational changes. (NetMBA 2010)

Once implemented, the results of the strategy need to be measured and evaluated, with changes made as required to keep the plan on track. Control systems should be developed and implemented to facilitate this monitoring. Standards of

performance are set, the actual performance measured, and appropriate action taken to ensure success. (NetMBA 2010)

2.2 Just in time, JIT

Just-in-time philosophy with-holds the belief that waste can be eliminated by cutting unnecessary capacity or inventory and removing non-value-added activities in the operations. (Krajewski and Ritzman 2005)

Just-in-time method is related to ERP-system because the ERP-system makes it easier to keep the production and the inventory in correct order and within the right capacity.

By using the JIT-method everything that is unnecessary is tried to be avoided, for example wasted time, resources, materials, and storage. The method has been invented to reduce the time that products are kept in storages, and this way decreasing the inventory costs. The method asks for intense transports and those cause stress for environment and add costs in transport section.

Each operation of a company is closely synchronized with the subsequent ones to make the operation possible. JIT is a method of inventory control that brings material into the production process, warehouse or to the customer *just in time* to be used, which reduces the need to store excessive levels of material in the warehouse. (Murray, Martin 2010)

Key words and notions in JIT-developing are flexibility, plainness, undisturbed, visuality, and autonomy. (Tiainen, Jouko 1996)

The main advantages of JIT are: the savings in rent and insurance costs with lower stock holding and reduction in storage space, less working capital is tied up in

stock when stock is only obtained when it is really needed, it is less likely of stock perishing, becoming obsolete or out of date, JIT helps to avoid the build-up of unsold finished product that can occur with sudden changes in the field of demand, and there is not so much unnecessary time spent on checking and re-working the product of others as the emphasis is on getting the work right first time. (Tutor2u 2010)

The most likely disadvantages of JIT are: there is not room for mistakes as minimal stock is kept for re-working faulty product, production is very reliant on suppliers and if stock is not delivered on time, the whole production schedule can be delayed, and there is no spare finished product available to meet unexpected orders, because all products are made to meet actual and given orders.
(Tutor2u 2010)

2.3   Defining the enterprise resource planning

In this part general basics of the ERP-systems are gone through. What are the systems for, how those have developed and what are the advantages and the disadvantages, are questions being discussed.

As already stated in the introduction ERP is an acronym of Enterprise Resource Planning, which is a set of activities through which companies manage their main operations.

ERP is a term that is widely used but still not so well understood. Although ERP was initially targeted to manufacturing, today it encompasses any product or service. When ERP is implemented effectively, ERP enables companies to break down traditional organizational silos, replacing them with a tightly integrated horizontal structure in which strategy, organizational structure, process, and

technology are closely aligned. Applications can include financial, distribution, manufacturing, human resources, and payroll. (Burns, Michael 2005)

There is also still confusion about the difference between an accounting system and ERP. In the past, an accounting system was limited just to financials, but that has been changing over the last few years and it is now hard to distinguish the difference between an accounting system and an ERP system.
(Burns, Michael 2005)

2.3.1 Development of ERP-systems

Enterprise Resource Planning was born in the early 1960s from a joint effort between a manufacturer of tractors and other construction machinery and partner IBM. Material Requirements Planning (MRP) was the initial effort. This application software serves as the method for planning and scheduling materials for complex manufactured products. (ERP and More 2010)

At the beginning the initial MRP solutions were big, clumsy and expensive. They required a large technical staff to support the mainframe computers on which they run. In 1972 five engineers in Mannheim, Germany began the company called SAP. The purpose in creating SAP was to produce and market standard software for integrated business solutions. MRP (Manufacturing Resources Planning) evolved into MRP-II in 1980's. (ERP and More 2010)

In 1990 an ERP-software was spread out to 35 countries through indirect sales channels. The term ERP was gained in the early 1990's when MRP-II was extended to cover areas like engineering, finance, human resources, and project management. In the end of 1990's ERP-systems had approximately 46,000 customers all over the world in 100 countries. (ERP and More 2010)

In 2001 9/11 occurred and created some kind of a drop in demand for new ERP systems, but in 2002 most ERP systems started to enhance their products to become "Internet Enabled" so that customers worldwide can have direct access to the supplier's ERP system. (ERP and More 2010)

2.3.2 ERP's present and the future

The ERP solutions seek to streamline and integrate operation processes and information flows in the company to synergize the resources of an organization namely men, material, money and machine through information. Initially implementation of an ERP-package was possible only for very large multinational companies and infrastructure companies due to high cost involved.
(ERP Fans 2002)

Today many companies in the world have gone in for implementation of ERP and it is expected in the near future that 60% of the companies will be implementing an ERP-package since this will become a must for gaining better competitive advantage. In the present business environment, role of a Chartered Accountant is considered to be very important and inevitable. (ERP Fans 2002)

2.3.3 ERP systems in Finland

Even if the first computer came to Finland approximately in the middle of the 1950's, yet in 1970's the firms had generally just rare, loose applications to manage storage and wages. On the other hand also the capacity of the computers was really poor. Mini-computers became more popular in the 1980's, so the firms started to build up their own modified MRP- and MRP II –systems or different kinds of financial management systems. Big companies usually have and had many locations and the systems were mostly local and were not connected to other locations. (Lehtonen 2004)

Client/server architecture became very popular during the 1990's. And especially after the mid- 1990's there was many standardized all-a-round settlements taken into use, for example SAP R/3, in the same time as the systems became widely integrated to the whole company's operations. (Lehtonen 2004)

Nowadays ERP system is a part of that complex, which is meant in practice to produce a cheap and high-class product to the customer. Emphasis of ERP systems are the basic operations in a company, for example supplies, storage, production, distribution, sales, and invoicing. In a data system the operations of a company is described as a process, in which products or services are created with help of people and machines. With help of the ERP system these processes can be automated and also integrated to each other. (Lehtonen 2004)

2.3.4 Leading international ERP-systems

SAP ERP: SAP is a specialized ERP product meant to solve technical and managerial issues. It has continued to be the choice of many companies around the world. It helps companies to redefine their business operations. Some of the features and advantages of this software program are at par with industry standards though some others require to be improved in order to make it compatible to the end user. (ERP-Wire 2010)

Microsoft: This software major is holding a promising segment in the small and medium enterprises market. Microsoft has been constantly upgrading the versions and is an expert in manufacturing the products from the vendor's point of view. They have been taking a very liberal stand when it comes to the market and competitors so as to be more compatible to the users. The biggest advantage of this software is that many companies will prefer them for one reason that they can be easily run in Microsoft application and platforms. (ERP-Wire 2010)

PeopleSoft ERP: PeopleSoft ERP software program helps the companies to streamline their Human Resource functions in an easy and effective manner. This software continues to be the undisputed leader in the market when it comes to Human Resource. Oracles recent takeover of PeopleSoft has only been a boon to its customers who are now able to access the e-services of Oracle also as a result of this merger. (ERP-Wire 2010)

UPS ERP: This ERP software has an important feature. They can work in combination with other applications like SAP and Oracle. This will enable them to get the best features from each software and put them in use as may be demanded. This has also hogged the limelight due to this advantage.
(ERP-Wire 2010)

2.4   Adoption process of ERP

Implementing an ERP system is often a process with several stages. In this chapter, we will examine the stages of pre-evaluation screening, evaluation, project planning, gap analysis, reengineering, team training, testing and post implementation.

1. Pre evaluation screening

Once the company has decided to go for the ERP system, the search for the right-kind of package can start. There is dozens or even hundreds of packages on the market so it is important to have time and patience to select the right one. (Management-Hub 2010)

2. Evaluation package

Implementation of an ERP involves huge investments and it is not easy to switch between different packages, so the right thing is 'do it right the first time'. Once the packages are evaluated and identified, the company should develop a certain selection criteria that permit the evaluation of all the available packages on the same scale. (Management-Hub 2010)

3. Project planning

This phase designs the implementation process. Details of how to go about the implementation are decided. Time schedules, deadlines, and so on for the project are determined. The plan is developed, roles are identified and responsibilities are assigned. It will also be decided when to begin the project, how to go on with it and how to complete it. (Management-Hub 2010)

4. GAP analysis

This is considered as the most crucial phase for the success of ERP implementation. This is the process through which the companies create a complete model of where they are now, and in which direction will they aim at in

the future. It has been estimated that even the best packages will meet just 80% of the company's requirements. (Management-Hub 2010)

5. Reengineering

In this phase human factors are taken into consideration. Every implementation can be involving a change in number of employees and their job responsibilities, as the process becomes more automated and efficient, it is best to treat ERP as an investment as well as cost cutting measure. (Management-Hub 2010)

6. Team training

Training is also an important phase in the implementation, which takes place along with the process of implementation. This is the phase where the company trains the employees to implement and later, run the system. It is vital for the company to choose the right employees who have the right attitude- the people who are willing to change, learn new things and are not afraid of new technologies and who acquire a good functional knowledge. (Management-Hub 2010)

7. Testing

This is the phase where one tries to break down the system and find the smallest mistakes out of it. The company has reached the point where it is testing the real case scenarios. The system is configured and now the company should come up with extreme cases like system overloads, multiple users logging on at the same time, users entering invalid data, hackers trying to access restricted areas and so on. This phase is performed to find the weakest links so that it can be rectified before its final implementation. (Management-Hub 2010)

8. Post implementation

To reap the fruit of the implementation it is very important that the system has wide acceptance among employees of the company. There should be enough employees who are trained to handle the problems that pop up time to time. The system must be updated with the change in technology. The post implementation

will need a different set of roles and skills than those with less integrated kind of systems. (Management-Hub 2010)

2.4.1 Selecting the right ERP system

ERP systems are the backbone of an organization. These systems connect departments and business processes, so picking the right system can greatly increase productivity and be a competitive advantage to a company in any industry. A company's long term strategic plan is the background behind selecting the appropriate system. Knowing the key criteria for selecting an enterprise system will be a good starting point for the evaluation process. (Sotkoos 2009)

Companies should look for agility and flexibility to adapt to current and future market leads. Businesses and technologies are moving and changing continuously. Technological innovations enter the marketplace at accelerating rates and customer expectations are continually increasing. (Sotkoos 2009)

Companies have to make sure that ERP software features add value. The critical processes of the present and future business need to be addressed first when looking at the robust features of enterprise solutions. These critical features must also be able to be integrated to every department. As an enterprise system grows, and helps the company to grow, it is important to make sure that it will be able to synch with all departments. (Sotkoos 2009)

The potential risks should be sought out when selecting an ERP system. The impacts and the likelihood of occurring should be evaluated. Different parties and segments of a company should be encouraged to develop strategies to mitigate the risks. (Burns 2005)

The company should look for an ERP vendor that has long history and experience with system replacements as this will be critical to the organization if an ERP-system is already "gone bad" and needing to be replaced. If an organization does not have an ERP system, this criterion is still valid as the organization will inevitable need to replace, upgrade or enhance their enterprise system. (Sotkoos 2009)

Companies have to lock in on the implementation time and get a detailed implementation scope of work and deliverables before selecting the ERP system. Most large scale implementation projects take even six months, and this is if all goes well. Others can take more than a year and still never get fully implemented. (Sotkoos 2009)

Companies should make sure that the system will fit in the business. What many companies found out in the old "big" enterprise systems is that they were originally developed for a particular industry. Trying to customize these stiff systems to fit in other kind of industry was like forcing a square peg in a round hole. Enterprise solutions today are more customizable than a decade ago. Some are more adaptable and easily integrated to any business in case than others. It is important for the companies to find out who the providers are and make sure that they are the right ERP solution for the targeted company. (Sotkoos 2009)

2.4.2 How to conclude ERP-implementation successfully

In order to have a successful implementation of an ERP system, the company needs to make sure to have information in line to help to make the process swift. It does not matter whether or not the company deals with paper or plastics, ERP should provide the company with the right system and performance that is needed. (Benefits of ERP 2009)

One of the most frequent mistakes companies make is to schedule too little time for the implementation. The process must be considered realistically. When creating an implementation plan, the leaders of the process must break the project down into enough small manageable segments: dividing the project into stages and then dividing each stage into steps. Every step and stage must be completed successfully and in right order. The team, which is working on the implementation process, must be given enough time to review, discuss, comment upon, and accept the implementation analysis that will be provided to the company. (Devries 2009)

The one who is in charge of the teams should be some older executive manager who has the authority to make changes happen and happen quickly.
(Donovan 2000)

A smooth and efficient implementation requires the close partnership of two teams: the consultants and the users, these teams need a project leader to drive it into right direction. The team leader will serve to harmonize the departments' competing needs and to supervise the whole process. (Devries 2009)

In order to make long-term improvements to in a company, the goals need to be identified and quantified. It is good practice to hold regular project audits so that any errors can be detected in an early stage. This will allow the company to rectify matters in time. If something is not running by the schedule, it is possible to refer to the exact steps or stages to discover where the delay has occurred and to figure out the reason. (Devries 2009)

All changes in a company can provoke feelings of uncertainty and a sense of threat among employees. Even if it is just the few employees from accounts, the warehouse, or the sales teams that make up the majority of the system's users, it is still important that during the pre-implementation analysis stage the management of the company takes very careful notice of what people in the warehouse have to say. This new system should serve the employees, not vice versa. (Devries 2009)

An IT system needs the engagement, commitment, and close cooperation of two partners: the implementation consultants and the adapting company's management team. If the management team is not determined and involved, even the best software technology and the most enthusiastic consultants will not be able to conclude. (Devries 2009)

It is important to carefully train the key employees in the early stages of implementation. Key employees are the ones who will be assigned with high authorization and who will become responsible for changing settings and editing the documents. The key users should be identified in the earliest stage of planning. This will encourage them to connect with the project and help the consultants get a better idea of the company's needs. Before the implementation begins, key employees need to be basic-trained on how the new system will work.
(Devries 2009)

It is a most common thing to resist everything new and something that will include some learning, most of the employees unwilling to change. It is essential to convince the employees that the new system will benefit them all. The management team and consultants should regularly emphasize the advantages and benefits of introducing the system. Implementing an ERP system requires a lot of time and effort from the employees and brings with it new tasks to perform. In this case, the managing director may consider employing additional methods of motivating employees, such as bonuses. The employees in a company will then take on the new duties more willingly and with greater enthusiasm instead of putting them off until the last minute. (Devries 2009)

In the process of implementing an ERP system, the company will go through organizational changes, with some employees receiving new roles and responsibilities. These changes can provoke resistance. These issues and fears earn sufficient attention. (Devries 2009)

Implementation is always only the beginning of the long-lasting journey with the

new ERP system. A well chosen system could become the foundation of the company's operations. (Devries 2009)

2.5   The advantages of using an ERP-system

The ERP system is supposed to significantly facilitate the fast distribution of the significant information in a company. It is also meant to use the resources, like people and machines, most effectively. With the help of the ERP systems managing operations, that would be extremely hard to manage by hand, is made simple and manageable. (Lehtonen 2004)

ERP's are cross-functional and enterprise-wide systems, which are taken into use to handle manufacturing, human resource management, order entries, accounts receivable and payable, general ledger, purchasing, warehousing, transportation, etc for an organization. Unlike most people think, ERP system is not a part of back office systems as it deals with customers as well as other people.
(ERP Implementation 2007)

ERP systems are meant to cover all the basic operations of any given organization. ERP system gives a company a better understanding of their business, standardizes business processes and illustrates the best practices. Moreover, as the companies are using ERP, it is easier to remove the requirement for external interface between the independent applications. ERP also induces lower maintenance cost, standardization of operating procedures and increased efficiency in reporting capacities owing to the storage of all data in a common location. (ERP Implementation 2007)

Practically, integration can be the highest benefit; the only really good project aim for implementing ERP is reducing data redundancy and redundant data entry. If this is set as a main goal, to automate inventory posting to general ledger etc, then

it might be a successful project. Using an ERP system will reduce costs if the company takes accounting and reporting seriously enough even before the ERP. (Hollander 2006)

Possible benefits are unlimited to any business enterprise that is implementing an ERP system. Here are some advantages that might be considered to follow the implementation:

- The use of paper and unnecessary printing is reduced by providing on-line formats for quickly entering and retrieving information.
- ERP improves timeliness of information by permitting, posting daily instead of monthly.
- The accuracy of information becomes better with detailed content, and better presentation.
- Customers will receive responses faster and the follow up will be easier.
- Monitoring will be better and resolutions to queries quicker.
- ERP should help to achieve competitive advantages by improving company's business process.
- ERP should improve supply-demand linkage with remote locations and branches in different countries.
- ERP should provide a unified customer database that is usable for everyone who uses the system.
- It should improve international operations by supporting a variety of different tax structures, invoicing schemes, multiple currencies, multiple periods accounting, and languages.
- It should also improve information access and management throughout the whole enterprise. (ERP.com 2009)

ERP is supposed to provide better visibility, improved communication, reduced inventory levels, reduced lead and cycle times, reduced wasted efforts, single source of information, improved planning and forecasting, and reduced costs across the company. (ERP and More 2010)

In the end ERP should result in increased productivity, reduced operational costs, reduced inventory levels, reduced material costs, reduced labour costs, improved financial controls, reduced/eliminated failures and defects, effective production planning, improved customer service, and supply chain management. (ERP and More 2010)

ERP can help the company reduce operating costs and it is a benefit when running company analytics. ERP improves the coordination of the company's process into one streamlined process where everything can be accessed through one enterprise wide information network. (Benefits of ERP 2009)

Additionally operating costs are reduced by being able to control inventory costs, lower production and marketing costs, and help lower help desk support. ERP systems can also be serviceable for the company by facilitating day-to-day management activities. ERP encourages the establishment of backbone data warehouses and allows employees to access the information in real time. (Benefits of ERP 2009)

Strategic planning is also benefited in that the ERP system is designed to support resource planning in the strategic planning process. This is traditionally the weakest portion of the process and it is a complex routine. But the reports and functions that ERP provides can help employees work through the strategic planning sessions and develop a comprehensive one that will aid in the company's processes. (Benefits of ERP 2009)

With real time capabilities and the ability to be able to see what is going on within the company as it happens, ERP systems can be handy when dealt with high volumes. With an ERP system, the company should never have inventory shortages or wasted time spent transferring files. An ERP-system can be tested before buying it and then it is possible to see how it should or it will work with the targeted business. (Benefits of ERP 2009)

2.6 The disadvantages of using an ERP-system

With all the possible advantages that ERP offers, there are a number of possible disadvantages as well.

A number of studies have shown that the biggest challenges companies will face when trying to implement ERP, deals with the investment costs. The employees in a company must be continually trained on how to use it competently, and it is also important for companies to make sure the integrity of the data is well protected. (Exforsys 2007)

Those companies where integration is not considered to be so important tend to have a hard time with adopting ERP; it does not improve the individual efficiency of users, so if they expect it, it will be a big disappointment. ERP improves only the cooperation of users. ERP software focuses mostly on integration and tends not to care about the daily needs of people. Person's individual efficiency might even slightly suffer when implementing an ERP. (Exforsys 2007)

ERP has a number of different limitations. The success of the system is fully dependent on how the workers utilize it. This means that employees must be properly trained. A number of companies have done a serious mistake and attempted to save money by reducing the costs in training. Even if a company has enough money to implement ERP, they may not be able to successfully use it if they do not have enough money to train and educate their workers to use it properly. (Exforsys 2007)

One of the biggest problems with ERP is that it is hard to customize. Very few companies can effectively use ERP right out of the box. It must be modified to suit the company's needs, and this process can be both expensive and clumsy. (Exforsys 2007)

Many problems that organizations have with ERP systems are because of inadequate investment in ongoing training for involved personnel, including those implementing and testing changes, as well as a lack of corporate policy protecting the integrity of the data in the ERP systems and how it is used. Privately owned small enterprises or any small companies are often undercapitalized, meaning that their ERP system is often operated by personnel with inadequate education in ERP in general. (Gleez 2008)

Customization of the ERP software is limited. Some customization may involve changing of the whole structure of the software which is not even usually allowed. ERP systems can be highly expensive to install. For example in multinational companies the costs can be from 30 000 $ to 500 000 000 $. ERP vendors can charge certain sums of money for annual license renewals that is totally unrelated to the size or profitability of the company using the ERP system. (Gleez 2008)

Personnel in technical support give often replies to callers that are unworthy for the caller. Computer security concerns come up, for example when the technical supporter tells a non-programmer how to change a database immediately. One of the main causes of the failure in adapting an ERP system is that the ERP systems are often seen as too inflexible and too difficult to adapt to the workflow and business process of a company. (Gleez 2008)

ERP systems can be complicated and difficult to use. Systems might also be too limited and do not allow much flexibility in the implementation and final usage.
The system can suffer from the "weakest link" –problem: inefficiency in one department or at one of the many partners may affect other participants widely and negatively. (Gleez 2008)

Many of the integrated links need high accuracy in other applications to work effectively. A company can achieve minimum standards, and that is why when time goes by the "dirty data" will reduce the reliability of some applications. (Gleez 2008)

Once a system is fully established, switching costs are very high for any one of the partners and that reduces flexibility and strategic control at the corporate level. The feinted boundaries in the company can cause problems in accountability, lines of responsibility, and employee morale. The system can also end up to be over-engineered relative to the real needs of the customer company. (Gleez 2008)

People might resist using software that is generally less efficient in their daily work than the previously used system or operations. People tend to know themselves what is good for them and switching some good, handy operations software to an ignorant ERP-monster which treats them as data entry slaves most certainly meets resistance. (Hollender 2006)

The solution is to assign enough cost and time to make ERP really help people's daily lives. Sometimes it means a lot of customization and reforming, but customization request can often be bargained down to only report building requests. If every single user gets his one "pet"-report or two they will not resist that much after cuddling their "pet". (Hollender 2006)

The important thing is to treat the end-users as valuable people whose requests are really important and not just as negligible data-entry slaves in the big machine. They must feel that they are important; they are not just "human resources" for the company, not just a tiny part of some big process. (Hollender 2006)

The key to ERP success is to make users and also the management to feel that this implementation is happening for their good. (Hollender 2006)

3 EMPIRICAL CASE STUDY

In this chapter, the empirical study and analysis are presented. First, the main research approaches are described, after which the selection of case study method is explained. Also, the case company, data collection as well as reliability and validity will be discussed. Finally, the empirical results will be presented.

3.1 Research approaches

Qualitative research is exploring attitudes, behaviors and different kinds of experiences through such methods as interviews or questionnaires for focus groups. Qualitative research attempts to get an in-depth opinion and point-of-view from the participants. Because attitudes, behaviors and experiences are important, fewer people take part in the research, but the contact with these people tends to last longer than in other kind of researches. (Sanches 2006)

Quantitative research generates statistics through the use of large-scale survey research, using methods such as questionnaires or structured interviews. If a market researcher has stopped you on the street, or you have filled in a questionnaire which has arrived through the post, this falls under the umbrella of quantitative research. This type of research reaches many more people, but the contact with those people is much quicker and simpler than it is in qualitative research process. (Sanches 2006)

There have been some debates about qualitative versus quantitative research – which might be better and which is more "scientific". Different methodologies become popular at different social, political, historical and cultural times in development, and all methodologies have their own specific strengths and weaknesses. (Sanches 2006)

In this study the qualitative method is used. The purpose and the methods of qualitative research suited for this investigation since a case company is used for the study., and the aim is to explore the role of ERP in this case company.

Qualitative research seeks out the 'why', not the 'how' of its topic through the analysis of unstructured information – things like interview transcripts, emails, notes, feedback forms, photos and videos are used. It does not just rely on statistics or numbers, which are important for quantitative researchers.
(Ereaut 2007)

Qualitative research is used to gain insight into people's attitudes, behaviors, value systems, concerns, motivations, aspirations, culture or lifestyles. It is used to inform business decisions, policy formation, communication and research. Focus groups, in-depth interviews, content analysis, ethnography, evaluation and semiotics are among the many formal approaches that are used, but qualitative research may also involve the analysis of any unstructured material, including customer feedback forms, reports or media clips. (Ereaut 2007)

From the figures 3, 4, 5, and 6 it comes clearer how qualitative research has multiple focal points:

Figure 3. The cultural point in qualitative research (Ereaut 2007)

The cultural point in qualitative research describes the culture in which the people and the brands live in. It is affected by cultural forces and meaning systems. In the researches the meanings, norms, and codes are shared and researched.

Figure 4. The mean, need or desire point in qualitative research (Ereaut 2007)

The mean, need or desire point is affected by the emotional drivers, conscious and unconscious ideas. In the researches the psyche is researched.

Figure 5. The practical point in qualitative research (Ereaut 2007)

The practical point in Qualitative Research describes the actions people take, and what they see themselves doing. In the researches the meaningful behaviour is researched.

Figure 6. The said out-loud point in qualitative research (Ereaut 2007)

The said out-loud point describes the knowledge people have and what they understand. In the researches the conscious mind is researched.

3.2   Case study

In this thesis a case company is used, the case company is called Suomen Lämpöpuu Oy. The case company is presented more detailed in the next sub-chapter.

A case study is not with single qualitative technique, since a number of methods can be used. A case study can be defined as an extensive study of a single situation such as an organization. All case studies are inductive in that they report on the particular and specific, and then try to relate the out-comings to the larger, general picture. (White 2003, 39)

A case study tends to look like an example. It is important that the context and background are explained and described in order to provide a complete picture of the situation that is under the investigation. The history, the location, and the current situation of the company are also relevant for the study.
(White 2003, 41-42)

There are always advantages and disadvantages in every research method when using a case study approach. One advantage is that a single researcher can carry out a case study all by herself. Another advantage is that it is cheap and is not dependent on expensive technologies. A case study is supposed to generate empirical information and data, and the researcher is not dependent only on previously published work and data. A case study usually takes place in a natural setting with in an actual organization and this gives a reality-perspective to the study. The reality might often be missing from the surveys and investigations that are conducted without a case. (White 2003, 41-42)

As a disadvantage of a case study is the plain fact that a case study might end-up on generating a lot of information, and part of that big quantity might be useless. The interpretation and the analysis need to be handled carefully and logically. (White 2003, 41-42)

3.2.1 Case company: Suomen Lämpöpuu Oy

The company Suomen Lämpöpuu Oy was established in 1999. It is situated in Teuva, in the western part of Finland. There have been two managers after the company was established. The first one was the manager since the company was established and in the beginning of 2008 he retired and a new CEO was appointed. The export- /marketing secretary has been permanent since December 2002. This secretary has experience from the field of export since 1984.

At the moment there are six employees working in the production. The workers are for example carpenters by their profession. Three persons are working in the office; the managing director, a second assistant and the first assistant.

SLP is specialized in production of thermo-treated wood for both the domestic and export markets. The main products are sawn timber and paneling. The main

customer groups are timber merchants, furniture manufacturers and other wood using industries. Export accounts for 85% of the firm's annual turnover. The export countries are at this moment Spain, the Netherlands, Great-Britain, Italy, Japan, Sweden, Germany, and Switzerland.

SLP is the leading company in the thermo treatment sector and the firm is continuously cooperating with various organizations in R&D. SLP has a remarkable market share in the domestic market and that makes the firm one of the biggest thermowood suppliers in Finland. In Finland there are about eight contender firms which also produce thermo treated wood.

Suomen Lämpöpuu Oy's yearly turnover is about 2 million euros. Thermowood is marketed under the trade mark ThermoWood®, which is a registered trademark of the Finnish Thermowood Association.

Thermowood can be used in indoor paneling, flooring, cladding, windows and doors, patios and decking, garden structures, garden furniture, fences. It can be used to replace impregnated timber or the endangered rain forest species. Thermo treated wood is a European alternative for rain forest species. Thermowood is a considerable choice when durability, stability and good look are considered important attributes.

The wood is treated in ovens. The first oven was bought in 1999 when the business was started and three ovens have been built by "our" selves. All of the three ovens have identical programs. Two ovens have burnt down. Size of two ovens is 25m³ and one oven is little bit bigger, 35m³. Ovens are process dirigibles and fire safe. Because of the high temperatures SLP has to have alarm systems to warn about fires etc.

3.2.2 Collecting the data

After choosing the research methodology the data collecting could start. The choice was qualitative method and also the case study was chosen as the research methodology.

Secondary data was studied from different kinds of printed publications (e.g. business magazines) and from Internet sources. The Internet sources were noted useful and helping while the subject was IT related. To keep the research reliable, the most official web pages were used when exploring on the Internet.

The researcher had quite a wide knowledge of the case company due to the years of working there. The researcher had a possibility to attend meetings and other situations that were related on the topic. A great source of information and knowledge came from the personal hands-on experience while working with the implementation process.

Questionnaires were given to the people in the company that were involved in the process and in the decision making about the implementation of an ERP-system in the first place.

By their very nature of the questionnaires, quantitative questions can be more exact than qualitative. Any question must be carefully crafted in a questionnaire, but in particular questions that evaluate a qualitative measure must be phrased well to avoid ambiguity. Qualitative questions also require more thought on the part of the participant and may cause the respondent to become bored with the questionnaire sooner. Questionnaires can be used to measure both qualitative and quantitative data well, but that qualitative questions require more care in design, administration, and interpretation. (Georgia College of Tech Computing 1997)

3.2.3 Reliability and validity

The main criteria of evaluating measurements of a research are reliability and validity.

It is often thought that reliability and validity are two separate ideas but, in fact, they are related tightly to each other. (Trechim 2006)

Reliability is the consistency of the measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. A measure is considered reliable if a person's score on the same test given twice is similar. It is important to remember that reliability is not measured, it is estimated. (Colosi 2004)

In other words, a measurement is said to be reliable or consistent if the measurement can reproduce similar results if used again in similar circumstances.

Validity is the strength of our conclusions, inferences or propositions. More formally defined, it is the "best available approximation to the truth or falsity of a given inference, proposition or conclusion". (Colosi 2004)

Sometimes qualitative questionnaires can be doubted; they can lack validity for a number of reasons. Participants can be lying; they may give answers that are desired and so on.

In this thesis the reliability and validity has been strived to be guaranteed by carefully selecting the data sources. These sources are listed in alphabetical order in the end-pages of this thesis, in the references. The people that answered the questionnaires were explained why it was made and for which purpose. This is how it is guaranteed that the information is allowed to be written to this thesis. In qualitative case study, validity can be defined as trying to capture what the respondents think is true rather than what is true from the researcher's perspective.

In this study, four key persons in the company answered the questionnaires which also are seen as supporting validity in a qualitative study.

The case company's board and the managing director were aware of the questionnaires, and actually the managing director was one of the respondents. The validity is based on critical settlements. Any assumptions were not made while using the sources. When referred to the written publications the concepts were not changed so much that it would have affected the understanding of the research.

3.2.4 Presenting the case study results

The questionnaire included open questions so that the respondents were free to respond to them in their own words. The questionnaire was carried out in Finnish because all respondents are using Finnish as their mother tongue. There were totally only four respondents and everyone of these are working at SLP. These ones were chosen because they are the ones that are and will be working with the ERP-system mostly and they can affect the features and additions that should be done in the system before hand and after the implementation.

The respondents were the managing director, the first assistant, (previous are referred as administrative staff later on) the production supervisor and the vice-supervisor (these two are referred as production staff later on).

The questionnaires were not completely the same for each respondent; the managing director and the first assistant had totally twelve questions in their questionnaires and the supervisor and the vice-supervisor from the production had totally eight questions in their version. The differentiation was because the administrative staff uses the ERP-system in different way than the production

staff. The administrative staff is able to exploit the system more in their daily routines than the staff in the production.

When gone through, the questions and the respondents' Finnish answers are translated into English in this thesis.

The first theme in the questionnaire focused on the reasons why the company wanted to implement the ERP-system. The respondents from the production thought that it will clearly state which orders are open and which have already been delivered, but more over it eases the stock follow-up and makes it easier to tell the customers what is in stock at the moment and what is not, because the system includes every bit of information about the stock and the invoicing is also in the system so it is always updated after an invoice is sent to a customer. The vice-supervisor from the production also made a good assumption: less capital is tied to the stock and more exemptive capital is released to the use, this is because the company does not have to keep any unnecessary articles in stock.

The respondents from the administrative staff thought that the system will make the information-flow better between purchasing, production, stock, and sales. The system gives an easier way of collecting information to be analyzed. The system will also make the forecasts and production planning easier. The administrative staff also thinks that the stock follow-up becomes easier.

For the administrative staff there were three questions. The second and the third questions were about including the strategy to the ERP-system implementation plans. The company's goal is to expand and develop to a seriously taken company in international markets, and as an important part of this development is an efficient and fluent supply process. With the ERP-system collecting information becomes easier and it clears out the sales, purchasing, and production schedules.

The second theme was about the easiness of implementing the ERP-system. All of the respondents thought that it has been little hard to implement the system and

there has been some slight difficulties. This is because the system is new and everyone has not used this kind of system before. There are lots that have to be learned and some modifications need to be made so that the system fits to this company. It is also been hard to release time from the daily routines to the implementation process, using expensive consultants has not been an option for the company.

The first assistant thinks that it has been somewhat easy to implement the system because the company and mainly the first assistant has been using same kind of software from the same supplier in the past. The supplier company is called HansaWorld. Production hopes that the familiarization to the system is thorough and the modifications work out well, it makes their job easier.

The third theme was about the necessity of the ERP-system to the case-company. The production staff point of view was in the order processes. The system makes it easier to follow-up the different stages of the production and everyone in the company can check the situation and answer if a customer calls and asks what the situation with his order is. They also thought that it is necessary because it makes it clear what is in stock and what is not and that way releases capital to other uses.

The administrative staff's point of view was on improving operations, delivery reliability, efficiency, and in the planning of the production. With the manual way of working that the company has used for years it is not totally possible to keep all the strings attached all the time.

The fourth theme was about the functionality of the ERP-system. The implementation process is still on-going so the respondents cannot fully say if the system will work totally the way it should. The guidance and education is needed and some modifications and adjustments need to be made. The first assistant raises up a fact that in different stages of the production different measurement units are used, and this causes more work with the modifications. (E.g. un-treated and treated wood is measured in cubic meters and planed wood in meters)

The fifth theme was about the advantages and the disadvantages of the system. The advantages that have been noticed are the label writing reduction, easier stock follow-up, capital release to other purposes, some more clarity on operations, and easier assessment of situations when receiving new orders and when planning sales.

The disadvantages that have been noticed are that the maintenance will add the workload and bureaucracy will increase, the system cannot produce totally usable labels to bundles, the production support is not working with the company that supplies the ERP-system, and last but not least a practical problem might occur in some point that everyone that should be committed to updating and using the system will not do their job properly in that area and the system will not stay up to date.

The sixth theme was about the future development of the ERP-system, what the company expects to happen in the future. The production staff expects that the modifications are made to work fully and the guidance and product support increases in future.

The administrative staff expects a lot from the supplying company, the company has many companies as their customers from different areas of work, and for every client the program must be tailored. The previous customizations might help the company to customize the system suitable for SLP's operations. Every software will develop while it is in use and the lacks and shortages are noticed and prepared. Official updates will come in certain times.

The seventh theme was about guidance that has been mentioned already several times in this questionnaire even thought it has not been asked directly in questions before. Already that tells that the guidance and support are major factors when doing something new. Some training has been received when a consultant from

HansaWorld has been visiting the company but those visits have been short, expensive, and they have not covered all that the company would have needed.

Finally, the last theme in the questionnaire focused solely to the representatives of the management and administration. These questions were about the selection of the supplier for the ERP-system and about the profitability of the ERP-system.

The HansaWorld was chosen as a supplier because the price was reasonable and there were enough features in the software, also the adaptability with the old software had an impact to the selection.

Last question was about the profitability and about the pay-back time. The managing director thought that the ERP-system will pay itself back in six months from the date of the full implementation. If it did not do that the company would not have been taking this kind of step at all.

The first assistant thought that the system will pay itself back in one to two years. With this system there will be work capacity released to other tasks and the first positive thing that will occur is that the length of the work-days will become more normal and the emotional stress will reduce among the employees.

4 CONCLUSIONS

In this chapter guidelines and opinions about the company's state are gone through and the researcher will recommend optional ways how to continue with the ERP-implementation so that it would be in full use as in short period of time as possible.

After deciding that the company is going to implement an ERP-system the company should have used more time to select the totally right kind of system for them. It might have been a good idea to discuss with some other company from the same branch of business who has some kind of ERP-system already in use.

A good thing in choosing the same kind of system that has been in use in the company many years already is that it is comfortable and familiar for few employees. That system has been in use only partly and there has not been any modifications made and according to the questionnaire answers modifications for the new system is also hard to get or otherwise too expensive.

Implementing an ERP-system is quite a huge investment. So before the investment it should have been a certain thing that every modifications that the company needs are possible to be done. The company that supplied the system and delivered it should have given more specific answers and kept communication going between the case company and them. Supplying company promised in the beginning to figure out the problems and give solutions but failed to deliver them.

Small and medium sized companies that have not been using an ERP-system before need more careful attention from the ones that should know what they are doing. Support and communication in even very small matters are really important factors when gaining the trust.

SLP should appoint or employ a person to just deal with the ERP-implementation. That person could be in touch with the supplier and collect all the needed

modifications to a list and every question to a paper so that those things could be cleared out as quickly as possible. After appointing or employing a person a time schedule can be made to determine how fast the system should be in use. The schedule should not be too strict and it should be somewhat flexible but it would be a good pointer how to work with the goal to be. The schedule should include things like when to begin the project, how to go on with it and how to complete it. Also roles of different people are good to determine so that if someone else is pointed to do something it is clear why he/she does it.

Company should create a complete model of where they are now, and in which direction will they aim at in the future. That should be done in a way that everyone in the company understands it and sees the connection between this list and the implementation of the ERP-system.

When an ERP-system is implemented it will bring along reengineering in many employees job responsibilities and tasks. These changes must be done clearly and the best for the employees is that they realize why these changes happened and that they happen just for the employees' best.

The company should invest to the training. When employees are familiar with the system they are more willing to use it as a part in their daily routines. No one in the current staff knows all about the system and that way is not suitable to take responsibility of the training. It is better to get the training courses from the party that is already trained to give the training.

A test version should be taken into use as quickly as possible. It might be difficult because the old version is also in use the same time and it feels like the work load doubles. But when using the test version the needed modifications, lacks, and mistakes pop out and there are better chances to fix those in to the test version than later on to the proper one. In the test version it is acceptable and actually advisable to come up with extreme scenarios like system overloads, multiple users logging on at the same time, users entering invalid data, hackers trying to access

restricted areas and so on. This way the mistakes and lacks are figured out kind of easily. The test version is already downloaded to the computers at the office so it is that way possible to start the testing in full power.

To keep the system interesting in further life, the system should be updated at times and if some new features come into use the employees should get the proper training about those. When any problems come in sight there must be somebody who is always available to help to figure out the problem as quickly as possible.

SLP is in a good situation at the moment but they are kind of stuck in it. They should demand more from the supplying company so that they get things moving to the direction they want. It is not SLP's problem that the supplying company is situated far away and the timetables are hard to match.

The production staff is still thinking positively even though they are not totally aware of what chances the new system will bring after it is totally implemented and taken into use. That state of mind is easy to use as a positive factor when the chances arrive.

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APPENDIXES

APPENDIX 1

Original questionnaire for Production Supervisor and for the Vice-Supervisor (Finnish)

KYSELY ERP:N KÄYTÖSTÄ

03/2010

Kyselyn toteuttaja: _____Kati Välimäki, Vaasan AMK

Kyselyn tarkoitus: Lopputyö International Business -linjalla

Vastaaja: _____

Vastaajan yritys: _____

Vastaajan titteli yrityksessä: _____

1. Miksi otitte käyttöön toiminnanohjausjärjestelmän?
2. Onko sen käyttöönotto ollut helppoa?
3. Miksi toiminnanohjaus järjestelmä on teille tarpeellinen?
4. Onko se toiminut toivotulla tavalla? Mikä on vielä pielessä?
5. Mitä hyötyjä olette jo huomanneet?
6. Mitä haittoja on tullut ilmi?
7. Miten luulette järjestelmän kehittyvän jatkossa? (mahdolliset päivitykset, maksut etc..)
8. Onko koulutus ollut riittävää?

APPENDIX 2

Translated questionnaire for Production Supervisor and for the Vice-Supervisor (English)

QUESTIONNAIRE ABOUT THE USE OF ERP-SYSTEM

03/2010

Researcher: _____Kati Välimäki

__Vaasa University of Applied Sciences

Meaning of the research: _____Thesis in International Business

Respondent: _____

Respondent's employer: _____

Respondent's title in the company: _____

1. Why you implemented the ERP-system in your company?

2. Has it been easy to implement the system?

3. Why the ERP-system is necessary for your company?

4. Has it worked like it should? What is not working the way it should?

5. Which advantages have you noticed?

6. Which disadvantages have you noticed?

7. How the system will develop in the future? (possible updates, expenses etc..)

8. Have you received enough guidance about the system?

Original questionnaire for the managing director and first assistant (Finnish)

KYSELY ERP:N KÄYTÖSTÄ

03/2010

Kyselyn toteuttaja: _____ Kati Välimäki, Vaasan AMK

Kyselyn tarkoitus: Lopputyö International Business -linjalla

Vastaaja: _____

Vastaajan yritys: _____

Vastaajan titteli yrityksessä: _____

1. Miksi otitte käyttöön toiminnanohjausjärjestelmän?
2. Mietittiinkö yrityksen strategiaa kun toiminnanohjausjärjestelmää hankittiin? Miksi?
3. Miten toiminnanohjausjärjestelmä tukee yrityksenne strategiaa?
4. Onko sen käyttöönotto ollut helppoa?
5. Miksi toiminnanohjausjärjestelmä on teille tarpeellinen?
6. Onko se toiminut toivotulla tavalla? Mikä on vielä pielessä?
7. Mitä hyötyjä olette jo huomanneet? / Mitä hyötyjä odotatte järjestelmältä?
8. Mitä haittoja on tullut ilmi? / Mitä haittoja tai negatiivisia asioista järjestelmä saattaa saada aikaan yrityksessänne?
9. Miten uskotte järjestelmän kehittyvän jatkossa? (mahdolliset päivitykset, maksut etc..)
10. Onko koulutus ollut riittävää? Mistä olette koulutusta saaneet?
11. Miksi valitsitte juuri tämän toimittajan?
12. Luuletteko, että järjestelmä maksaa itsensä takaisin ajan myötä? Miten pitkästä ajasta luulette olevan kyse?

APPENDIX 4

Translated questionnaire for the managing director and first assistant (English)

QUESTIONNAIRE ABOUT THE USE OF ERP-SYSTEM
03/2010

Researcher: _____Kati Välimäki

__Vaasa University of Applied Sciences

Meaning of the research: _____Thesis in International Business

Respondent: _____

Respondent's employer: _____

Respondent's title in the company: _____

1. Why you implemented the ERP-system in your company?

2. Did you think about the company strategy when you decided to get an ERP-system? Why?

3. How the ERP-system supports you company strategy?

4. Has it been easy to implement the system?

5. Why the ERP-system is necessary for your company?

6. Has it worked like it should? What is not working the way it should?

7. Which advantages have you noticed? / Which advantages you expect from the system?

8. Which disadvantages have you noticed? / Which disadvantages or negative thing the system might bring out in your company?

9. How the system will develop in the future? (possible updates, expenses etc..)

10. Have you received enough guidance about the system? From where you have received the training?

11. Why you chose this supplier?

12. Do you think that the ERP-system will pay itself back? How long period of time you think it would need?