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DEVELOPING JKS PRODUCTS LTD

Investing in equipment and work environment

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ABSTRACT

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<p>The thesis was done for company called JKS Products Ltd in Ylivieska. This thesis was part of a project that aimed to explore and find ways to develop and grow a company's business. JKS Products Ltd has been founded in 2007. During the first years of operation, the company's operations and net sales increased year by year, until in 2013 the growth stopped. At this point, the company had invested in new production facilities, and finding new growth would have been important.</p> <p>It lasted until 2017 before the company took the first concrete steps to find a new direction. A new external chief executive officer was hired for the company. He brought with him many reforms and major investments. The focus of the reforms was to strengthen the company's subcontracting business and seek growth primarily from subcontracting. The largest investment was made by purchasing production equipment. Tube laser machine and a new large band saw were acquired for the company. Marketing was also developed, but the focus of the reforms was on investment.</p> <p>In addition to equipment purchases, the company invested in new modern operating methods. There was a desire to get the technical drawings of the products in order, for this PDM provided a good tool. The aim was to develop material flows, inventory monitoring, production planning, and a suitable tool for this was the ERP system. The aim of the new, more efficient operating methods was to make production and the company's operations more efficient than before.</p> <p>The reforms started in 2017 did not go as expected. New equipment investments proved challenging and caused a considerable amount of extra work. The introduction of new policies and systems was also very challenging. It was not until 2020 that the equipment and operating methods began to be on a level where investments and reforms made possible profitable business and growth for the company.</p>		

<p>Key words Development, ERP, growth, management, marketing, organization</p>

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<p>Opinnäytetyö tehtiin Ylivieskassa toimivalle JKS Products Ltd -yritykselle. Tämä opinnäytetyö oli osa projektia, jonka tarkoitus oli tutkia ja löytää keinoja kehittää ja kasvattaa yrityksen liiketoimintaa. JKS Products Ltd on perustettu vuonna 2007. Ensimmäisten toimintavuosien aikana yrityksen toiminat ja myynti kasvoivat vuosi vuodelta aina vuoteen 2013 saakka, jolloin kasvu pysähtyi. Tässä vaiheessa yritys oli investoinut uusiin tuotantotiloihin ja uuden kasvun löytäminen olisi ollut tärkeää.</p> <p>Kesti vuoteen 2017 saakka ennen kuin yritys otti ensimmäiset konkreettiset askeleet uuteen suuntaan. Uusi ulkopuolinen toimitusjohtaja palkattiin yritykseen. Hän toi mukanaan monia uudistuksia ja suuria investointeja. Uudistusten tarkoitus oli vahvistaa yrityksen alihankintaliiketoimintaa ja hakea kasvua pääasiassa alihankinnasta. Suurimmat investoinnit tehtiin ostamalla tuotantolaitteistoja. Putkila-serlaitteisto sekä uusi suuri vanne-saha hankittiin yritykseen. Markkinointia kehitettiin myös, mutta uudistusten pääpaino oli investoinneissa.</p> <p>Laitteostojen lisäksi yritys investoi uudenaikaisiin toimintatapoihin. Tuotteiden tekniset piirustukset haluttiin järjestykseen, PDM tarjosi tähän hyvän työkalun. Tarkoitus oli kehittää materiaalivirtoja, varaston seurantaa, tuotannonsuunnittelua ja tähän sopiva työkalu oli ERP-järjestelmä. Uusien toimintatapojen tarkoitus oli saada tuotanto ja yrityksen prosessit aiempaa tehokkaimmiksi.</p> <p>Vuonna 2017 aloitetut uudistukset eivät edenneet odotetusti. Uudet laiteinvestoinnin osoittautuivat haasteellisiksi ja aiheuttivat huomattavan paljon ylimääräistä työtä. Uusien toimintatapojen ja järjestelmien käyttöönotto oli myös erittäin haasteellista. Vasta vuonna 2020 laitteisto ja toimintatavat alkaivat olla tasolla, jossa investoinnin ja uudistukset mahdollistivat kannattavan liiketoiminnan ja yrityksen kasvun.</p>		

Asiasanat ERP, johtaminen, kasvu, kehittäminen, markkinointi, organisaatio
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CONCEPT DEFINITIONS

CEO = Chief executive officer, head of the company.

ERP = Enterprise resource planning, software used by company to coordinate every are of their business.

PDM= Product data management, system used to store all the essential product information

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CONCEPT DEFINITIONS
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1 INTRODUCTION

This thesis is about the development of JKS Products Ltd. Company was established in 2007 and since the beginning, its turnover has grown yearly until 2012. After that, the company's turnover remained at around 1.5 million euros. Around 2015, the founders of the company started thinking about how to increase their sales. JKS Products works in niche market, where there is already some competition. Increasing the existing product range would have meant looking for new markets further from Europe and even beyond. However, this was not an easy path for a small company since product development is usually not simple and straight forward thing. Even though new channels for marketing and selling the products were being sought all the time, growth could not be completely to be built on this. In 2017, JKS Products changed its CEO. The election of the new CEO opened the opportunity to invest in tube laser equipment. There are not many similar people in Finland, and it was thought that it could be the key to growth, among other things. As an investment, the tube laser equipment was large and there was no guarantee that the investment would be successful. Also, just getting a new device was not enough improvement. At this point the company and its range of products had already grown to the extend when everything needed to get organized. An enterprise resource planning (ERP) system and a PDM system for product information management were acquired.

The greatest challenge in developing and making the company grow has not been the introduction of new tools and working methods, but the greatest difficulty has been implementing them into practice. It has been especially challenging to get people behind these new ways of working so that everyone works together for common goal. The biggest setbacks in the development of the company have been due to the big differences of view between the new and the old ways of doing things. Unless everyone who are involved in introducing new ways of working are not behind the change, things will not go as expected. As things get longer, they also get complicated. Back in 2015 when echelon of the company started to think what should be done to make company grow, no one could predict or calculate that big changes in the company will also create big differences of view. These differences of view can be roughly split so that the younger generation wanted to invest and develop to the new tools, while the older generation would have preferred to develop things more modestly and invest more cautiously.

The focus in this thesis has been in finding the best theories and practices and combine them so that they both support each other. Over the past few years, the investment and steps described in this thesis has been done. Now it is time to do the real work and get them all implemented. This will keep people at

JKS Products busy for many years to come. This process will be laborious because all this implementing needs to be done in addition to the normal daily routines. It is also vital that all the people in JKS Products will be convinced that this is right thing to do. Everyone needs to be behind this, otherwise it is not going to work. If we manage to push all this through, then we will be rewarded after few years when all the implementation is done, and investments are paid.

2 ORGANIZATION AND LEADERSHIP JKS PRODUCTS LTD

This chapter focuses on an organization and leadership of company named JKS products Ltd. The purpose of this chapter is to search and study what could be done better at JKS products Ltd in the sense of organization and leadership. The company is now twelve years old and in a certain sense it has slackened in place, growth has stopped, and people are tired. Business is not properly organized, and this can be seen in the company. There is also confrontation within the company between young and old generation. In a certain way, the company is in chaos – although everything is running smoothly on the paper.

This chapter is supposed to raise some new ideas and plans of action to get things rolling in a better direction. Certain basics need to be in order before the company can take the next big leaps towards growth. Literature would have offered a much deeper dive into the subject of organization and leadership, but limited time forced to narrow view. So, of the subject have nearly been scratched but then again, this chapter can be a good starting point for a deeper study in the future.

2.1 BACKGROUND OF JKS PRODUCTS LTD

JKS Products Ltd is a relatively small company founded twelve years ago in 2007. Company have had around ten employees over the years. During last couple of yours that number has increased to twelve. The organization, management, and leadership of the company should be measured accordingly. For example, it's not appropriate to set up a complex organization just to manage a few people. However, the goal of the company is to grow bigger and better. But then even a small company can benefit if it has a great leader who can direct the company through challenging times to a path of growth. After the company grows then bigger and more complex organization may be justified.

2.1.1 Organizational structure

JKS Product's organizational structure used to be small and flexible, but this kind of structure also causes problems like narrow expertise and lack of resources. Reliance of one or few people may become problematic for the development of the company. (Lämsä & Päivike 2013, 151). Recently company has been trying to implement ERP and older employees lack of basic computer skills and reluctance to learn them has been somewhat slowing down the implementation. Since company took first steps toward modern

times and started implementing ERP all these old accustomed working methods have been the biggest challenge. It has become very clear that especially our older employees lack motivation to do things new way. Even after you explain it to them and they agree that it makes sense, they still cannot implement new working methods. This can be very frustrating. Older employees have used to do things same way for decades, so it seems that they are very reluctant to change way of working.

The hardcore of the company is created by the three founders that all represent different generation. Ages of the owners are around 40, 50 and 70 years. They are all good in the different area, but their expertise is not wide beyond their own area. For example, one person can be talented with technical stuff, but this same person does not necessarily know anything about leadership. If this kind of person tries to be a human leader, the results can be bad. Recent years the company has grown then the size of the organization has also grown. Currently, the company has 5 people executive team that meets once every week to go through matters that needs attention. People in this team are of 30, 35, 41, 52 and 60 years old. Purpose of this team is to go through problems and matters that arise during operations and solve them. In their book Lämsä and Päivike (2013, 153) have defined the organizational structure tasks as follows:

- enabling economic and efficient operations and the appropriate use of resources
- controlling the operations
- defining responsibilities and obligations for persons in different positions, groups, and teams
- coordination between different tasks and organizational parts
- enabling flexibility to meet development needs
- promoting people's satisfaction and cooperation

All these tasks can be recognized from JKS Products executive team. Core idea is to make things happen and to assure that there is always someone responsible for all company operation areas.

Recent years JKS Products has made big investments. This has also forced company to pay attention to the way it's operating. One of the challenges have occurred while trying to implement new bigger organization and new ways to work.

2.1.2 Leadership

Management and leadership are two separate things. They both have been ignored in JKS Products. A successful organization needs them both. Leadership means leading of the people and management refers to leading of issues. Concepts of Leadership and management are often considered as synonym, but difference is that in leadership is about interaction between the leader and subordinates, while management refers to managing of operations decision making related to them. (Lämsä, Päivike 2013, 207).

The primary function of a leader is to visualize the purpose of organization. Manager in turn is the person who puts this vision in to practice and carries it out.

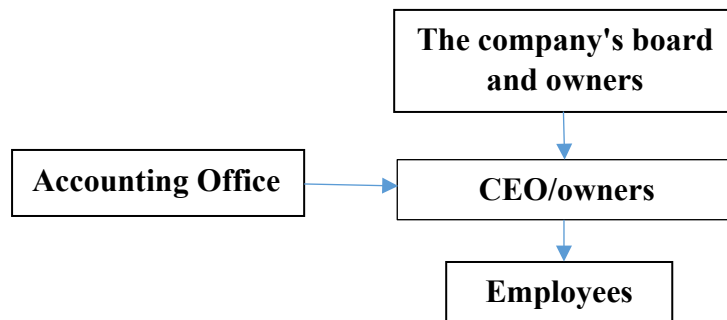
In search of a good leader is necessary to first see what kind of leader a good leader is. Many different traits have been listed for a good leader in literature. Some of these are drive, honesty and integrity, leadership motivation, self-confidence, cognitive ability, knowledge of business, creativity and flexibility. (Greenberg 2011, 480) Matti Alahuhta (2015, 144) has a shorter list in his book about leadership. He has listed five basic issues that he thinks are essential to leadership.

1. Building a trust
2. Positive attitude
3. Interest in human development
4. Ability to see the essential
5. Desire to achieve

Building a trust is a corner stone of everything in work environment. An atmosphere of trust arises when superiors keep their promises, avoid bouncing, listen people around them, are straight and present. Add positive attitude to the atmosphere of trust and things just get better. Negative attitude, pressuring employee and fear won't make better results. Negativity, cynicism and frustration will only destroy organization. When there are superiors working in a positive atmosphere of trust, things are already going to good direction. When superiors are interested of developing humans, everyone can feel being important part of the work community and organization. Supervisor needs to see things holistic and understand the bigger picture then he can describe even most abstract things clearly. Then he can also tell everyone how given task are related to company's other operations. (Alahuhta 2015, 141-143).

2.2 JKS PRODUCTS – OLD SITUATION

It's been said that organizations only change when they have no other option. (Kamensky 2016, 32). JKS products Ltd is a company that has been established twelve years ago. It now has more than ten people working in it, including the founders. Company had three founders and these same three founders have led the company until today.



GRAPH 1. Current organization structure at JKS products Ltd (adapted from JKS Products 2019)

As seen in the GRAPH 1 most of the power in the company is focused to owners of the company. Is this a good thing? Are owners qualified to take company further and develop it? They are expert on their own areas in technics, but are they experts in management and leadership?

Soon, there will be changes to company's organization. This is mainly because one of the founders is going to be retired, but also because company needs to develop and start using more modern ways to operate. This alone will force company to re-think the organization's structure and think where the company is going and how it will be managed. Renewal always requires one man or woman who can lead company through process of renewal. Naturally, no one can run process like this alone and wide teamwork is required to achieve goals. (Kamensky 2016, 32)

2.2.1 Old organization

People's roles and responsibilities have been evolved naturally over the years. At the beginning when company was small these roles formed naturally, almost by them self. Everyone knew what was expected from him. After all, at the beginning there was only three people. Before new organization there was no clear organization structure or clear way to lead the company. In some situations, this has caused some problems especially when company has grown. People might have been doing each

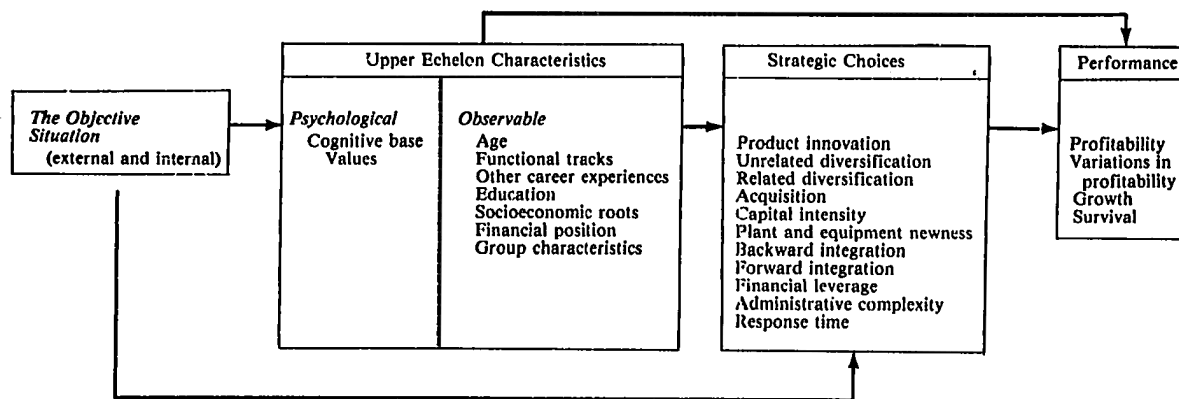
other's tasks and sometimes work have been overlapping. One of the biggest problems in JKS products is in the production. It is unorganized; there is no control of almost anything. No one is leading the production or looking over that orders transform to products in time. This is one of the most critical problem that the company has now.

Material flow is totally unorganized. People order material by phone and it's not being recorded to anywhere. This problem is even more challenging because older people in organization refuse to see benefits of organizing and documenting material flow. These benefits would-be real-time balance information on material, almost real time inventory value information. Unfortunately, older generation refuses to see this and rather keeps running a round warehouse looking and counting material – as they have done for decades.

Other challenge is also physical location of all material and item. There are no places even standard products. Warehouse is almost completely unorganized. Everything is simply put wherever is empty space. Modern ERP system provides multiple different kinds of tools for organizing warehouse and material, however older generation keeps fighting against implementing these new tools. No one is not in any charge of organizing material to warehouse. Could clear organization structure improve the situation? For example, if there would be a person who would be responsible for arranging arrival material to the right place or one person who would organize all the work, maybe then everything would not be a one big mess. Of course, this would require that we would have clear system how to organize everything and for example all material would have its own storage place. If no one is not responsible of anything, then result is a mess.

2.2.2 Leadership and management

JKS products has started from zero and grown to a company that has 1,7 million turn over. Same CEO and same people have been involved since the beginning. This causes problem where there are not necessary any new and fresh ideas coming from anywhere – same people, same thoughts. One could make conclusion based on this that company's upper echelon can have big effect on which kind of decisions are made in the company. Companies with younger managers will choose riskier strategies than companies with older managers. Old managers do not tend to take risks and therefor nothing new does not happen so easily. Maybe new younger, manager with suitable characteristics could navigate the company to new growth path.



GRAPH 2. An upper Echelons Perspective of Organizations (adapted from Hambrick and Mason 1984, 198)

Matti Alahuhta (2015, 37) says in his book Company needs good and strong executive team that is excited about new changes, but that is not enough. Leader needs to get everyone excited and behind changes. Top management may be very enthusiastic, but it's not going to lead to anything unless whole organization is behind the change.

This is good example of resistant to change. If some people that currently are in the organization keeps resisting the change, they can pretty much stop and delay any changes that management is trying to push through. Even one person can complicate matters a lot by his actions. One example of this kind of behavior could be slipping from logging purchase orders or not receive material properly when it arrives.

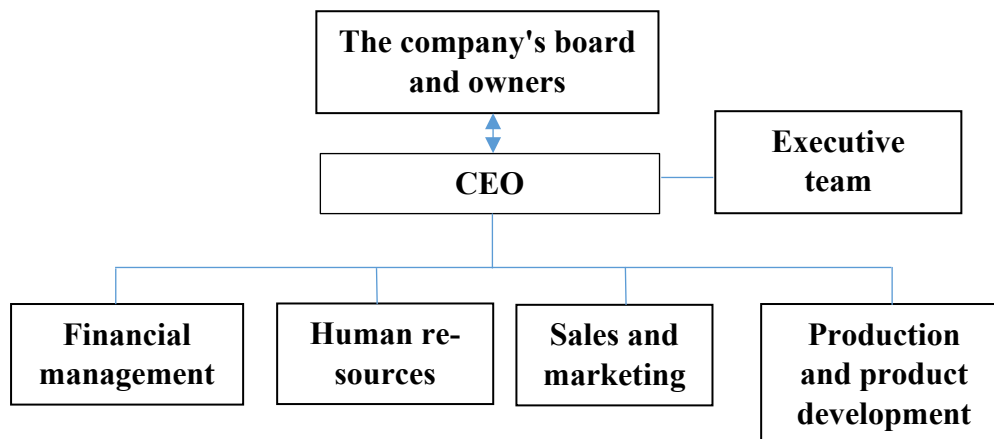
2.3 Changes to do

Company is never ready. If manager thinks that company that he is leading is ready, then he is like a gardener who stops gardening or athlete who stops practicing. (Alahuhta 2015, 30).

To get things better organized in the company there is need for clear organization, better management and need for strong leader who can guide the company to path of growth. Company must have manager who constantly keeps pushing and encouraging people to get better results.

2.3.1 New Organization structure at JKS products

One of the first things that need to be done was to form a new organization structure. This way responsibilities can be shared among people. It's better that each of these departments have responsible person who makes sure that things that belong into that box are taken care of.



GRAPH 3. New idea for organization map (adapted from JKS Products Ltd)

In a small company this kind of map might already be too big because there is not necessary enough people to handle all these different departments. Most probable way to handle this is that one person is responsible for couple of different departments in co-operation with another responsible person.

In the future when company grows then this map might change so that additional departments will be added, or unnecessary departments are deleted. Some functions can become centralized; resources can be saved by avoiding duplication of effort and result can be higher efficiency (Greenberg, 556).

In new organization, there needs to be responsible person behind every task that is done in the company. Good example is material flow. It starts when new material is ordered to the company. There needs to be person who makes sure that right amount of right material is ordered with a right price. Then after material arrives there needs to be a person who receives material, register it in to stock and makes sure that material is stored in the right place.

Organization change is big challenge to a company. Lämssä and Päivike (2013) have listed problems that will happen if organization does not work.

- People's work motivation and morale will suffer if all the company's operations are in chaos and there are no rules or division of tasks.
- Decision-making slows down and its quality decreases if there are no acquired habit how to make decisions.
- Inability to innovate in change
- Increasing costs
- Inc confusing organizational structure and ambiguous working practices cause work stress

During the organization change from old organization to new all these listed problems have occurred. Some more and some less. After the organization has been working better over time, the problems have also decreased.

2.3.2 New Chief Executive Officer

If company is not moving forward, then management or owners of the company should start thinking where to get some fresh blood in the company. After ten years, it is good to change the leadership team and get some new blood in the company. A small company like JKS products does not have resources to put in recruitment process for new CEO. It also cannot pay huge salary to the management. These facts limit options that company has in their disposal. In cases like this one possibility is to look inside the company and look for possible new leader that way. In case of small company ran by same people since the beginning looking outside the company is most likely much better idea. This is simply because new fresh ideas probably will not come from within the company.

2.4 Summary

Based on these proposals made in this chapter will not yet give answer are they good or bad. Things and measures presented in this report are merely a first step for the company to take. Defining an organization and hiring a new CEO will most certainly change things, but are the things going to change for the better or for the worst? My enlightened guess at this point is that things can only get better.

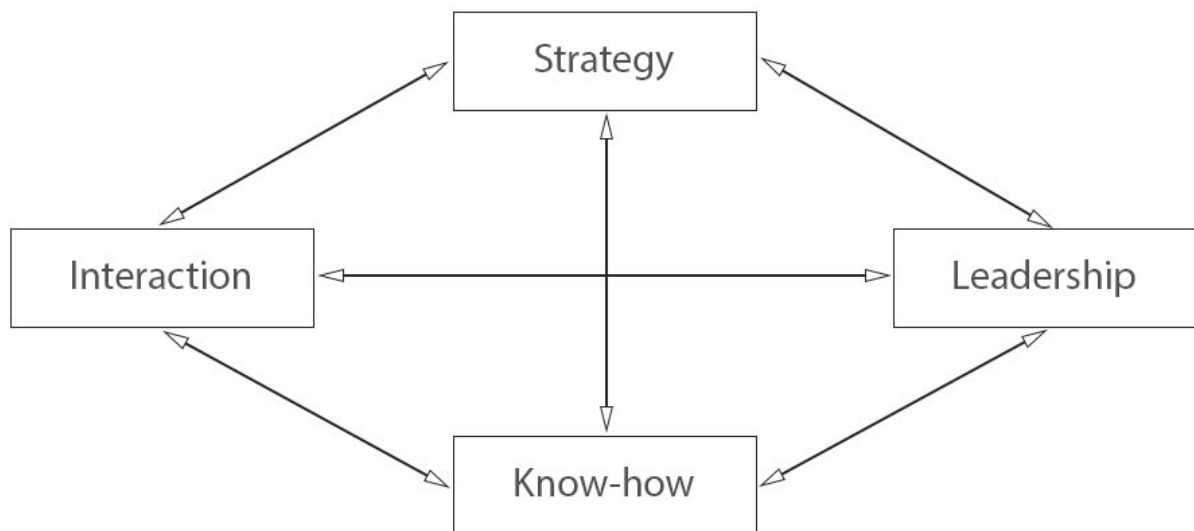
Since JKS products was founded, it has grown until last few years. To me this is a very clear sign that something needs to change. JKS Products needs to move forward and new CEO can make this happen.

3 BUSINESS ENVIROMENT AND STRATEGY AT JKS PRODUCTS LTD

This chapter will look back few decades of network building history in Finland. It will also look few years forward to the future of JKS products Ltd. In order to grown company needs to do something. This report will explain guidelines what will be done during next three years. Things are not explained in high detail, but overall picture is drawn. All described plans in this chapter has already been started during year 2017.

3.1 Short history of JKS Products Ltd

Company's long-term success is depending four factors: strategy, interaction, leadership and know-how. None of these is not enough by itself, but they are all strongly depend on each other. If company wants to be successful, then all these corner stones are essential. (Kamensky 2016, 28)



GRAPH 4. Diamond of success for business (adapted from Kamensky 2016, 28)

JKS products Ltd is a company in metal industry and it was founded in 2007. Company have three founders who each already had prior experience from this field of industry. Business idea was to start a Finnish company that produces and sells tools that are required for network building. Main customers are telecommunication- and networks companies. Company focused mainly just the cable trailers at the

beginning, but very quickly range of products grew and all kinds of network building tools came to production. All these products are meant for one thing – handling cable in one form or the other. Usually new networks are built, but sometimes old ones need to be dismantled. For these needs JKS product produces tools.

A smaller branch of JKS products business is subcontracting. Company does various jobs for other companies. These jobs can be sawing, drilling, welding, bending or lathing various steels. Overall, we have good know-how to metal works. In 2007 at the begin of the business this was rather big part of our work and substantial part of company's turnover came from subcontracting. Soon we got to the cable trailer market and sub-contracting became smaller part of our business.

3.1.1 Passed decades

Networks building tools have been the same since the 70's. There has been some development on technical details and safety issues, but basic idea of cable trailer, reel lifter or reel bench has remained the same. Some new techniques have arrived over the years. Problems with underground cable can be now located much easier with new technology. There are highly sophisticated tools available for this kind of trouble shooting, but these are not JKS Products area of expertise. To achieve high operational reliability of networks they need to be build underground where they are much better safe from storms and other natural disasters. Underground installation is new trend in network building and JKS Products needs to follow that by developing it's current range of products toward underground cable installation.



PICTURE 1. Old trailer built in the 80's and new trailer built in the 2010 look similar (Järvikuona 2008)

3.1.2 How marketing has been done

Marketing of our products has been done same way last ten years. Key thing has been that everything must be done by our self's because there is not money to be wasted on external service providers.

When company starts from zero and phone is not yet ringing then there is lots of time to do and test current marketing skills that company has. In JKS Products this means that everything that was related to a marketing was done by one person.

Marketing related things:

- Web pages (build from zero)
- Brochures
- Contacting customers (phone and email)
- Meeting Customers
- Answering to all product inquiries
- User manuals

Even one of these things can mean a ton of work. However, when there is no money to be invested these and the only thing you can invest is your time and skill then you just need to start working and do as much work as possible. At the beginning this was understandable but now company has grown and doing everything by self is growing too big task to handle.

3.2 Preparing for the future changes

Last ten years JKS products has been working and doing everything in pretty much same way. "You evolve or you die" World is constantly changing and companies that fail to adapt to this change needs to find them self's or they will cease to exist (Greenberg 2011, 584). Company's turn over has settled down to around 1,6 million euros. Company employs ten or more people. All this has raised the question that what can we do to grow company bigger? Can same old management come up with new innovative ideas that could turn company to growth or should there be new people with fresh new ideas. Change in the organization can be compared to a trip from starting point meaning old way of thinking and operating to another point with new way of thinking and operating. (Lämsä ja Päivike 2013, 184)



GRAPH 5. JKS products turnover has been around 1,6 million (adapted from www.inoa.fi 19.04.2020)

3.2.1 Fundamental elements and changes in next three years

The future will bring new internal challenges to the company. Next three years is going to bring lots of changes that will have effects to the company's way of operating. These internal changes can be planned and controlled inside the company. There is also going to be changes outside of the company that we can't directly affect, but we can adjust our operations accordingly.

First and the most radical change is that one of the three founders of JKS will likely retire during the year 2019. This will have effect to way the company has been working. Three founders of the JKS has been cornerstone of all operations. Each one of the founders have had his own specific role in daily activities. This has set the balance to all operations and this balance is going to be disturbed. This is a challenge that needs to be taken seriously and addressed properly.

Another big change and risk that lingers around the corner is retirement of one of our major re-sellers in Switzerland. Gematex's sales network has covered Switzerland, France and parts of Germany. They have been selling JKS products trailers more than ten years. During that time, it has been a one of top five reseller. Gematex is rather small company, it employs only three people. All the key actions and sale operations lays on the shoulders of one man: Gérard Federspiel. He is well over sixty now and retirement is only matter of couple of years. At this point, there is no information what he is going to do with his company Gematex. Maybe he runs the company's operations down, finds new people to run it or simply sell it. Selling a one-man band is not easy task.

JKS Products Ltd have had promising co-operating with Italian company called Omac. During last couple of years, they have managed to grow bigger re-seller than Gematex. Their primary market is Italy, but their sales network reaches to Middle East and Africa. Through them we have managed to get our trailers to Africa, Middle East and Saudi-Arabia, places where JKS products could not be selling directly simply because we do not have any sale's network in those places. Occasionally Italians do get big deals, but there are downsides as well. Payment terms are bad, 60 days 80% and 120 days last 20% of the payment. Even these can be flexible, and payments do not always arrive on time. Compared to all other re-sellers every deal with Omac requires extra amount of works. They never accept the price but there is always additional quotation round with them. Also, they will not accept our standard solutions, but they always want to do their own customizations and changes.

Domestic markets need to be organized and figured again. Until now trailers and other products have been marketed and sold directly to end user from JKS. If company sells the product directly to customer then profit is better, but resellers are cut out and will not be able to make a living. Many customers want to get best possible price, so they contact both JKS and re-seller. JKS products' policy has always been that re-seller gets the deal, but current situation creates a lot of misunderstandings with prices and problems with customer service situations between JKS products, re-sellers, and the end customers. Usually the one who will lose in these unclear pricing situations is end customer. If service is poorer than customer is expecting, then person may feel that buying situation is unfair. On the other hand, high service inequity situations might be perceived as less fair by the customer than low service inequity situations in cases where price inequity has been low. (Evans, Arenson, Huppertz 1978, 256)

3.2.2 Business opportunities and challenges

While searching for growth, one possibility is to invest subcontracting. It has always been a part of company's operations, but quite soon after starting the company subcontracting got smaller and smaller part. If right niche for subcontracting can be found that could be significant part of company's growth process. It would need careful consideration what kind of investments would be required. Market research of close by firms needs would be essential.

Increasing exports could potentially increase sales. However, it always requires lot of works to enter new countries and markets. Situation is generally always that someone is already on the market. This

means that there is always competition. In case JKS products decides to invest increasing exports then possibility to get subsidies for this purpose must be investigated.

Since one of the founders of JKS products Ltd is going to be retiring soon one possibility is to sell whole company. This option has emerged a few years ago after group of international investors expressed their interest in buying big part of the company. If company would be sold, it would first need to be put ready for sale. Planning for sale needs to start years before actual sale is going to take place. During these years company needs to focus getting all operations and systems in excellent shape. (Allen Peter, 2009, 4)

3.2.3 Strategy and business model for the future

In the near future JKS Products needs to solve many problems in order to survive. Big challenge and problem that needs to be solved is unorganized production. There must be some person who takes responsibility of the production. This person needs to be interface between sales and production. It is vital that after company gets an order and it's inputted in the system; someone will make sure that this order will go through production and it's being delivered to the customer in time. There are far too many examples that on the day of delivery some one noticed that no one has done anything for the order that is supposed to be on customer next day. These kinds of situations are way too common. All this is highly inefficient and frustrating.

Another challenge are tools and other manufacturing equipment. Most of the JKS products' tools and machines are around ten years old. They are getting close to end of their life cycle. This means that there is some investment coming on the near future. Same time it is wise to think what other needs there might be in the next few years. Should new tools have some new features and characteristic that existing tools and machines are lacking? Or should we invest something completely new machines and seek growth through branching out with something completely new.

3.3 Plans for the following years

Vision is a view of future's picture which is wanted to be realized in long term (Kamensky 2016, 82). To get company to grow path some changes will be done. Whether we want it or not, there will be some changes ahead of us during next three years. Some people are going to leave the company, but at the

same time new people will be brought in. Investments to new facilities, machines and people is also going to be done.

3.3.1 Changes needed to be done in next three years

JKS Products as a company needs to be prepared for the inevitable things that will take place in near future. Most obvious challenge is the retirement of one of the original founders of the company, Erkki Kallio. He is one of the key persons in the company and possess a great deal of tacit knowledge. When key person like Erkki leaves the company for any reason like retirement, accident or by getting sick, none of the company's operations cannot be stopped. Goal is to get all the system in the company to such level that even in the theoretical cases like replacing the whole staff, all the operations need to be fully operational within few days. This means that everything must be well planned, documented and executed.

In order to achieve such smooth operation of company JKS products will execute development project of the production. ERP system will be introduced, and all company's operations will be executed through ERP. Software provider for this new system is Lemonsoft. Changing the software will also mean that our current accountant office will change since they do not use or support Lemonsoft. Implementing new ERP software is very complicated and expensive process. If Implementation cannot be carried out successfully then ERP system will only drain company resources. This has been the case in JKS products. For example, if employer does something pass the ERP system it then causes problems on inventory. Every time when someone does this it means that someone else needs to fix this. Even one indifferent person can cause lots of problems. (Monk, Wagner 2013)

3.3.2 Taking the opportunity

Being entrepreneur usually means taking risk. What risk we have taken and why. How we will make sure that these risks will provide us opportunities to grow and develop company.

New CEO have started working in JKS products at the beginning of 2017. New person brought lots of new ideas to the table. Most of these innovation and strategic choices presented in this report came from new CEO. Company's board of directors just need to be supportive towards new CEO and give him enough leeway so that all these reforms can be carried out. Already after short while under new CEO a

positive effect can be seen in everybody's work motivation, atmosphere and team spirit. New CEO takes massive challenge when target is to get company to new direction. This means that company's operations like management, sales, product development, marketing and strategic planning need to be carried out. Organization should be learning so that employees are constantly acquiring and sharing new knowledge. Everyone in organization needs to collaborate on work activities. (Anonymous 2003, 26, 28)

Domestic market situation will be charted. It is worth looking into the possibility that direct sale from JKS products will be ended completely and all domestic sale will go through resellers. This would solve many of unclear sale situations when customer do "forum shopping" while trying to find lowest price. More focus will be put on export markets. Possibility to get EU support for export marketing efforts will be examined. Company needs to consider also participating in certain big exhibitions in Europe. Marketing issues and implementations are critical matters to small and growing companies like JKS Products. (Romano, Ratnatunga 1995, 9)

3.3.3 Strategy and business model

It is vital that company can understand and carry out the strategy and business model. This will mean some concrete action that needs to take place. Tools and machines will be renewed, and completely new machines will be invested. Oldest machines in the production are saw and lathe. They are both very end of their live cycle and they are both also getting too small and outdated. Saw will be replaced with new and much bigger band saw than the current one. Manual lathe will be replaced with new cnc lathe. Completely new breakthrough will be made by investing to tube laser machine. This will support our own production, but it also creates potential for completely new markets for subcontracting. With the tube laser machine, we will be able to offer steel profile construction to other companies. Shipyard might be good potential customers for this kind of laser machine since they do lot of steel construction work, but this needs to be examined through market research.

Current production hall operates half as a warehouse and half as production space. This solution has been necessary since no other space has been available. Huge downside is that using production space as a storage will make working difficult and inefficient. It's also safety risk when material is laying around floor.



PICTURE 2. Work efficiency is not good in a middle of material (Järvikuona 2017)

New 600m² warehouse will be built and all the storage material will be moved to new warehouse. All the material will also be organized. Each title will have its own shelf location from warehouse. Material flow will also be controlled by Lemonsoft so that each time something is put or taken from warehouse it will be booked into Lemonsoft. This will require booking discipline, but without it nothing will change. While ordering new material, purchase order must be done and when it arrives there must be a person who will receive it and make sure that it is booked into the Lemonsoft.



PICTURE 3. JKS products new warehouse was completed by autumn 2017 (Järvikuona 2017)

Running and guiding all the operations through ERP system provides lots of benefits. Storage value can be checked on monthly base. Work our used per project can be followed and check if it has been profitable.

3.4 Summary

All four edges of diamond of success must be constantly taken care, strategy, interaction, leadership and know how. Understanding and continuous work is essential to company to be successful. (Kamensky 2016, 364)

Implementation of all measured described in this report JKS products Ltd can double or potentially even triple company's turnover. Strategy for next three years contains many new actions that if realized, they will bring more work and cash flow into the company. The success of the grow project will remain to be seen, but at this point everything looks good.

4 INNOVATIONS AT JKS PRODUCTS LTD

Company that has operated ten years by same people needs something new. New innovations must take place so that company can move forward. There are many ways to get company to new growth path. Way of working can be changed. People can be thought and encourage to think more innovative way. Work atmosphere can be changed so that spirit of innovation becomes natural way of thinking and operating.

Company itself can also be under development. Key thing here is echelon and its effect to the company's outcome. If same people run the company year after year, at some point things start to repeat themselves. How can these same people see things from some new fresh angle? Maybe they cannot and in this kind of situations it is best to find some new people with fresh eyes and fresh ideas.

4.1 People, products, and company

Everything in a company starts with the people that are working in there. They are the ones that make things happen in the company. If people are effective, then works get done and company will be successful. If you want people to perform beyond your wildest dreams, make them feel special. Good way to make people feel special is to do field trips, play hooky, arrange meetings with good food. Only job in these meeting is basically just to keep ideas flowing (Kelley 2001, 95)

4.1.1 Innovating new products

Innovating and designing new products can be a hard work and results may not always be what you expect. From the company's point of view new products can open new markets and grow sales. This is one of the biggest reasons why creating new products is important to companies and why they invest money to product development.

Few years ago, JKS products got new product idea that came from customer through reseller. It was an idea of "cable dog" for bigger ground cables. Diameter of these cables could be anything between 40 to 130mm. Cable dog was meant to be used as a pulling or pushing device that would pull or push cable to underground pipe. This product would fit in nicely to JKS's product line, so product development was

started almost immediately with meeting with couple of key people from reseller who provided all necessary start-up information. First drawings and prototype were build based on this information.

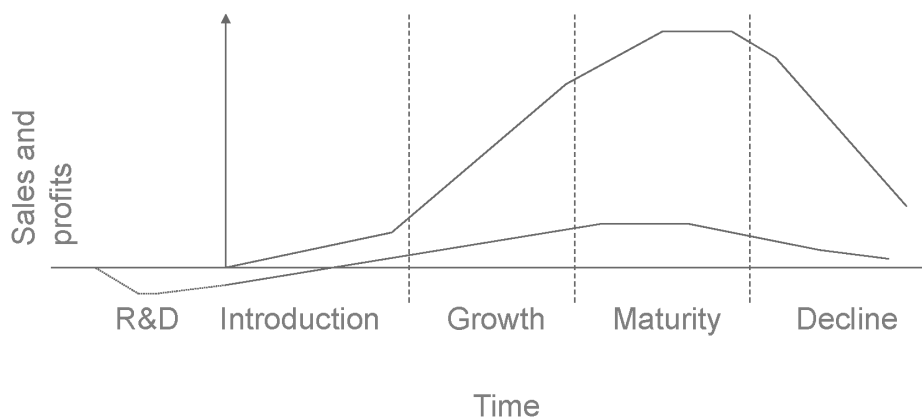
Once prototype was ready it was taken few key customers who could see, touch and even test the device little bit. All these customers provided lots of new views and ideas how to improve prototype. All viable ideas were included to next version of Cable dog.

Once the new improved version was ready it was sent to these same customers for testing. Device was on field in test use for couple of months. During this time, there were few more minor improvements made to the product, but overall product seemed ready. Everybody at JKS and on reseller seemed excited about it. It was time to start sell the product. After decent marketing around and one exhibition JKS products innovation ended up selling poorly. Why?

Usually first thing that many would say could be that products was priced wrong and therefore it was too expensive. This is not very likely explanation since similar type of product are already in the market and Cable dog was not priced over these competitive products. It's about 2/3 of the products that are developed in R&D fail in commercialization stage (Mäkeläinen 2017, 7). In this case the “cable dog” managed to only reach the Introduction phase in the concept of product life cycle.

The concept of product life cycle

Sales and profits



GRAPH 6. The concept of product life cycle (Adapted from Mäkeläinen 2017, 4)

In their book Kelley and Littman (2001, 27) says that people are too polite to tell the unvarnished truth about the product. Maybe all the customers who used and tested the product didn't like it, but just politely offered to give feedback to their bosses just to keep everybody happy.

Kelley and Littman (2001, 27) offers another possible explanation in their book. Maybe customers and testers just didn't know what to think about this new Cable dog. Similar kind of products had been on the markets before, but this had V-shape belts and constructions was bigger.

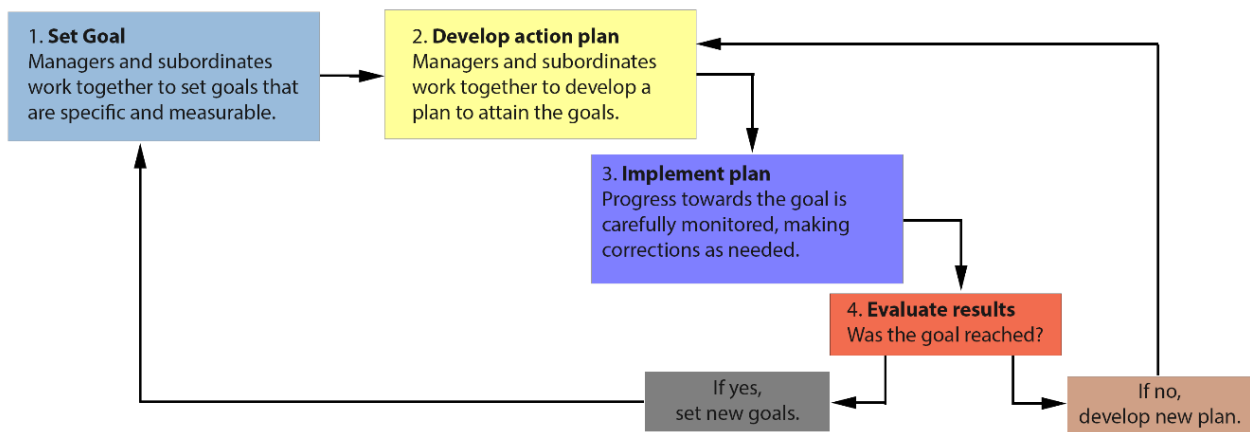
Another possible explanation is that this new product was not marketed correctly. Maybe more marketing efforts would have been needed or marketing strategy was simply wrong. This product was launched with a relative high price. Although price was close the same as competitors nearest corresponding device. There was not completely equivalent product on the market, so this marketing strategy was Slow-skimming strategy (Mäkeläinen 2017, 15)

There are also opposite examples of product innovations in the History of JKS products. Sometimes some customer comes with product idea that might seem insignificant to us, but we decide to do it anyways. It's more than once when these insignificant ideas have been positive surprise by becoming very successful products. Main thing is never to stop searching, testing, and innovating new ideas. At the end you can never know which ones of them will be successful and which ones will not.

4.1.2 Developing the company

Another way to do innovations in a company is to re-new the company by itself. Giving birth to new innovations also requires right kind of environment. JKS products was founded in 2007. It has been run by same people since the beginning. In the beginning, everyone had lots of new ideas and everyone was full of ideas. However, after few years these ideas are beginning to repeat them self's and people are not now exited to develop new things. Sure, people can say that they are innovative and full of new ideas if asked, but actions speak pretty much different language.

One way to solve this problem might be to develop company's organization by changing management. New management can then set measurable goals with time frame attached to all this. Goals need to be measurable and they must have time limits, otherwise they are completely useless. (Greenberg 606). If organization is going to be renewed, then new qualified CEO is essential. His job is to guide the company through the change.



GRAPH 7. Goals, plans and implementation (adapted from Behavior in organizations 2011, 607)

Management sets goal where company needs to get to and then design a plan how to get to that goal. In a small company like JKS Products plan will be implemented together with employees. After preset time frame management then evaluate results of the plan and estimates if goal was reached. If it was, then management sets new goals and starts over. If goals were not reached, then management will need to develop a new plan. (Greenberg 2011, 607)

4.2 How to innovate and develop

JKS products Ltd is a ten years old company. It has been run by same people who founded it ten years ago. Currently there is not any kind of established procedure how to handle new innovations or ideas at JKS. If new idea arrives, handling it can be very random. Idea can go through or it might not come to public at all. Reason for this is the fact that no one knows how to these ideas should be handled and this matter has never been in any discussions in the company.

Innovations can be divided into two types in JKS products Ltd. First type of innovations comes from customers and clients. They can be completely new product ideas or suggestion for improvement to some old product. Other type of innovations are the ideas that are coming from inside the company and aim to develop the company itself.

4.2.1 Customer feedback and ideas to innovation

JKS products is strongly depended on good customer relationships and extremely sustainable products. Both needs to be maintained regularly. Almost all the ideas for new products or improving old products comes from customers who uses these products. They have the best information of these products; in fact, they know the qualities of these products most likely better than anyone in JKS products. This information should be able to collect and harness it to good use.

Kelley gives good example in his book (2001, 25) when they go and look how this medical instrument is used in real situation. This instrument is not used the way it was designed. It also had some qualities like loud clicking noise that were no good. By observing usage of this instrument, they could innovate and make better design and version of the product.

Best way to keep in touch with people who use JKS's products is to go to the field and work sites where these people are working. These are best places to do observations how these products are used and could some certain operation be done differently or more effective. On the works site the end users can also provide their ideas how to improve these products.

4.2.2 Developing the operations

One of the biggest problems to develop ten years old company is to get new fresh ideas and innovations. Company has been run by same people since the beginning – can they keep providing new fresh ideas and think out of the box? In short; Operations management is about how organization creates and deliver services and products. (Slack, Brandon-Jones, Johnston 2016, 5). In JKS Products operations has never really been managed in anyway. Things have just been done the same way that they always have been. At the beginning of the company this was not problem, but since company has grown operations should be managed somehow. This is because now days there are so many areas in the company that cannot be handled and run by one individual person.

It's also important to recognize problems in current old operations and find better ways to do things. For example, all operations and many of the product data exist only inside the heads of certain key people. What if these key people get sick or decide to leave to work for some other company. In this current state, would be very well justified to have ERP system that would help control everyday tasks. All the product data should also be documented so that every single product has its cad-drawings and assembly instructions can be found from PDM-system. All the company's operations should be productized so well that if we would replace all our people then company would be fully operational within a week. This might not be achieved in practice, but it is a good goal.

JKS Products produces products and delivers subcontracting. This is the reason why company exists. This is called operations function which is one of the three core functions of any organization. Other two are the product development which will bring new products and another one is the marketing. Operations manager needs to communicate with all these core functions to ensure effective organizational performance (Slack, Brandon-Jones, Johnston 2016, 6-7).

4.3 WAYS TO DEVELOP

Company itself should also be subject of innovation. It would need to be constantly developed and pushed forward. If company is not going forward, it will decline. There are many ways how to develop a company, product, way of doing things and how to work. However, since JKS Products is small company, all development ideas need to have resources. Almost all executive team meeting all kinds of problems are brought up. Here are few examples: company does not have any product development, quality system has been under development for six years, there is a massive disorder in production, employees are inefficient, site management is incompetent etc. This list could go on and on. When resources and organization size is limited then line must be drawn what can be done and what needs to be put on hold.

Small company like JKS Products may have same kind of operational management issues as bigger companies do but they might be more difficult to separate them from the other mass in the organization. In any case smaller companies can achieve advantages with operations management. (Slack, Brandon-Jones, Johnston 2016, 6-7)

4.3.1 Setting up a team

To get new ideas and innovations alive there must be people that handle these new ideas and innovations. Someone needs to talk about them and brainstorm them. This need to become way of working so that these brainstorms and idea meetings becomes almost daily thing (Kelley 2001, 56). Everything in work environment must support creative atmosphere and every employee must be encouraged to think positively and bring their ideas public – even crazy ones.

Unfortunately, JKS products is a micro company. There are only ten people working in there. Therefore there is not much options what kind of people we can select in an idea team, we pretty much must go with the people we have. In optimal situation, there would be possibility to select all eight characters for

the team that Kelley describes in his book (2000,98). Luckily, people that are working at JKS are different from each other so if they are brief and guided correctly, they can learn how to be innovative. Also, among them must be some of crazy characters for hot groups that Kelley talks in his book.

4.3.2 Changing echelon

At the beginning of 2017 new CEO started working in JKS products Ltd. Just after few days it was clear that new people do have new ideas what to do inside the company. If we could carry out even some of new things that new CEO brought to the company, we might be able to double or maybe even triple our turnover – at least this would be a good target.

It's also good to do some modifications in executive team. Let people who are not interested being in team anymore go and replace them with people who's got fresh ideas. Involve people from production and listen their input and views.

The first and most important thing that needed to get done was organizing the current production. So far everything had been handled old fashioned. If someone needed something, then we just called to supplier and ordered the material. There was no purchase order, no tracking, no proper inventory management. If customer called to our seller, then he or she had to run all over production facility to see if product was available or not. Operating like this is very inefficient. It was clear from the beginning that if we were going to grow then these basic things needed to get in order. To get production organized we need to have an information system that tracks everything from purchase order to invoice and bookkeeping. All the material also needs to be organized. There must be a place for all the bits and pieces that we have – nothing mustn't lay on the floor.

Second thing that our new CEO brought to the house was to change the course of the company to new business. JKS product's turnover has been around 1.5 million for quite some years now. To raise it, we need to find something new things to do. Markets for our current products are limited. Customer that buy our products are ready to pay good price, but problem is that number of customers is very limited. Finding new markets from abroad is possible, but competition is much tighter in Europe than in Finland. We have already been doing subcontracting on off-peak times. New idea was to invest into a subcontracting – big time. New CEO had good connections to metal machining importers. From there we found out that currently in Finland there is only one pipe laser machine that can cut big enough steel pipes that can be used on shipyards. Many of these bigger steel frame constructions are still cut old-fashioned way.

So, this could be a great niche for us. In addition to new opportunities in subcontracting new pipe laser would greatly improve our current production. We would be able to do all our steel frame cuttings ourselves. Whatever we decide to do, we would need to find something that is relatively new and there is not yet much competition. Finding correct successor for CEO is highly important issue. Failed recruitment might compromise company's sustained success. (Winum, Saporito 2012, 5)

4.4 Summary

All the ideas presented in this report are going to be tested at least on some level at JKS products. It remains to be seen what do these new ideas and thoughts will bring to the company. Changing the work atmosphere to more idea friendly direction can be done right away in theory but it will take time before people learn and adopt this new way of thinking and operating. It takes time for new routines to sit in everyday life. It's also up to the leaders of the company to show an example to employees and help them to bring out their ideas.

Making big investments like this pipe laser is not any small task – it's a project. It needs much more than just order the machine and bolt it to the floor. Production must be in order and things need to run smoothly if we want to offer subcontracting to some big players. Production process must be under control from first cad drawing to the moment where client pays his invoice. With good planning and execution this can be achieved.

5 IMPLEMENTING ERP

This report describes production development project that JKS Products Ltd is currently going through. Idea to this project came around 2015 when growth had stopped. Officially project was started at the beginning of 2017, it is supported by ELY and it's scheduled to end 2019. JKS Products has grown from zero. Every step on the way has been new challenge. This project is the biggest one so far. Then again if company does not move forward it regresses.

ERP implementation started in summer of 2017 with first project meetings with project leader. Active phase lasted until the end of year 2017. This was a period when project leader took responsibility to check our progress from time to time. Every time when project was falling behind schedule, reason was searched, and solution was provided. There were some matters that were too big to solve during active phase of the project. For instance, product structures were too complicated to build in such fast time – too much information was missing from ERP.

Overall implementing the ERP seem to be on-going thing. It seems to require constant maintenance, updates, education, and logging discipline. One of the biggest challenges, at least in this case, has been resistance to change. Although younger employees have been excited about the new way of doing things, while older employees seem to have had almost zero motivation to ERP or implementing new ways to work. One person has even refused to change his ways to work. This has naturally caused extra workload to everyone else.

Most of this report is based on my own experiences of on-going implementation of ERP that is going on in JKS Products Ltd.

5.1 Developing company with ERP

Core idea of ERP system is to integrate all major business functions like production, finance, sales, and human resource management. Organization does not merely buy, but also buys into an ERP system (Knights, Willmott, 2007, 481.) Company needs to be developing itself all the time. It does not matter in what field company is operation, competition is usually very hard and if nothing is being done then someone will come and do your work with lower cost and higher quality. This is the why company should always keep itself in a developing state. All operations should be under constant improvement. Improvement means that something is done better than before. All operations in the company can be improved. (Slack, Brandon-Jones, Johnston, 2016, 533.)

While company gets older and bigger, it also gets more complicated. This is when ERP becomes very useful tool. When company starts from zero, it might very well be that there is not so much need for something like ERP. However, when company and its operations grow, they need to be managed or the result will be chaos.

Operations management can be done through ERP. This way company can create and deliver services and Products. It's activity of managing the resources that create and deliver these products and services. (Slack, Brandon-Jones, Johnston, 2016, 4,5.)

5.1.1 Benefits of ERP

ERP is generally seen as to having potential to improve company's operations. Reason for this is that it forces to input all required information in the system and because it demands discipline from the users. If ERP is implemented and used properly it's very powerful tool. ERP can integrate whole supply chain starting from suppliers and ending to customers. It enables sophisticated communication with suppliers and other business partners so that information that ERP provides is more accurate. Operations are better under control with ERP, all parts of business are more efficient. ERP can also include features that makes it a powerful tool for planning and controlling operations. (Slack, Brandon-Jones, Johnston, 2016, 478.) When employees are doing all their work through ERP system, then everything is also leaving a track. This becomes a great help if this employee is not available and someone else needs to take over employee's work. All key things that has been done and tracked so any qualified professional can take over the work with relatively small effort.

5.1.2 Critical success factors of implementation

One of the key issues in implementation of ERP is what critical success factors (CSF) should be managed. If company does not get CSF's right, then risk of implementation grows. Table 1 show these categories of critical success factors of ERP implementations.

TABLE 1. Strategic and tactical CFSs for P Implementation (Adapted from Finney, Corbett, 2007, 335.)

Strategic critical success factors	Tactical critical success factors
Top management commitment and support	Balanced team
Visioning and planning	Project team: the best and brightest
Build a business case	Communication plan
Project champion	Empowered decision makers
Implementation strategy and timeframe	Team morale and motivation
Vanilla ERP	Project cost planning and management
Project management	BPR and software configuration
Change management	Legacy system consideration
Managing cultural change	IT infrastructure
	Client consultation
	Selection of ERP
	Consultant selection and relationship
	Training and job redesign
	Troubleshooting/crisis management
	Data conversion and integrity
	System testing
	Post-implementation evaluation

On practical level there are many difficulties that implementing ERP has. Here is a list by many consultants:

- Total cost is likely to be underestimated.
- Time and effort that implement takes is likely underestimated
- The resourcing business and IT functions is likely to be higher than anticipated
- Level of outside expertise required will be more than anticipated
- The changes required to business processes will be greater than expected
- Controlling the scope of the project will be more difficult than expected
- There will never be enough training

The need for change management is not likely to be recognized until it is too late, and the changes required to corporate culture are likely to be grossly underestimated. (this is the biggest failure point for ERP implementations). (Slack, Brandon-Jones, Johnston, 2016, 486).

All difficulties listed above have been more or less realized in JKS products.

5.2 Why ERP is needed

Is ERP something that company must have when it grows or can everything be taken care without it.

JKS Products Ltd was founded 2007 by Erkki Kallio, Jouko Sorvisto and Pasi Jarvikuona. They all had some previous experience from how to run and organize production from their previous workplace. However, none of them had any experience how to run a company or how to master all the resources when company start to grow. At the beginning you may use pen and paper, but when business gets bigger and material flow grows, it's not going to work anymore – things tend to get complicated.

Original idea was to start a Finnish company that designs, produces and sells tools that are required for network building. Customer base consist mostly of networks builders. At the beginning the most important product of the company was and still is a cable trailer. Reel lifters and different kind of reel stands are also important part of company's range of products. Another branch of operations is subcontracting. At the beginning subcontracting was a big part of company's operation, but quite quickly own products went ahead. At the beginning all operations was ran with pen, paper and one computer. Over the year's operations got bigger and way that company was ran changes multiple times. Usually this meant that some new software came, and it was implemented as well as it was possible within limited resources. During the year 2017 JKS Products invested heavily on new relatively expensive tools. Biggest single investment was new tube laser machine. Aim of these investments is to grow turnover that is coming from subcontracting. To handle all the material and workflow ERP is essential.

5.2.1 Top management support is mandatory

Key think for successful implementation of ERP system is top management support. If company's top management is not behind ERP, implementing is not going to happen. One person cannot handle implementation alone, especially if people around him/her are reluctant to start using new ERP system. Implementing ERP is a task for everyone in the company. If ERP is just a "project" of one person in the company, it's not going to work. JKS Products Ltd's first system that had ERP qualities was Econet. Unfortunately, only one person was motivated to operate the software so most of the program's qualities were never used. For example, material was order by phone and there were not any kind of purchase orders made. Orders and material flow were not tracked anyway and when material arrived at company it was just left "somewhere". All the company's operations were basically running from people's memory and it's very common that sometimes people forget some things.

Reason for operating this way was that management was not interested of doing things differently. Management's idea was "Things have been done this way for the past 30 years, so this is the way we do things." So even when company had tools, it was not able to implement ERP on any level. Management and all the staff need to be behind ERP, or it won't happen.

It's also very important to explain to management and to people why it's important to have everything organized and ran through ERP system. From company's point of view one of the most important benefit is that information can be controlled in one place. All the information of material and items that company needs in its day to day operations can be found from ERP. For example, is some part has run out of stock and more needs to be ordered. This is not a problem with ERP. Person just check's products ID code and then he or she has all the information that is needed: price, supplier, stock level, estimated delivery time, shelf location, etc. If company does not have ERP, then all this information is usually stored in some one's head. What if this someone is sick or has decided to change his workplace?

Another big help from ERP comes from automation of company's operations. For instance, if some material is running low then ERP can send alarm next time when that material is needed and let user know that new purchase order is waiting for approval. In JKS Products stock levels are going to be controlled though product structure. When title is sold, Lemonsoft will automatically consumes or reserves material that is on title's product structure. This feature alone will save a lot of time because employees do not need to manually keep track of stock levels. Only when new material arrives stock level of that material will be checked and confirmed.

This kind of storage systems gives almost real-time information what is the value of stock. Previously this information was achieved once a year when all the stock levels were manually calculated.

5.2.2 Clear objective, scope, and goal – teamwork

When starting to implement ERP, first thing to do is to set objective and goal. Good team is also essential. In JKS Products on the first steps was to resolve what was needed now and what were needs in near future. JKS Products got new CEO at the beginning of 2017. After that company's board of directors set new guidelines. Goal was to double the turnover within next couple of years. This was going to be achieved with new investments and branching company operations to sub-contracting. All this meant that all the operations and material flows needed ERP system. Investments included tube laser, saw and software.

ERP was the key to handling all these new operations. CEO was project champion. It was and is on his responsibility to make sure that ERP implementation project runs smoothly. It was important that it was implemented properly. Cost for the implementation project was around 15.000 euros so it was relatively high. This cost made some of the owners to propose that implementation should be done without any outside consultation. However previous bad experiences with Econet made board of director to decide that implementation will be done properly, under a supervision of senior consultant or someone with sufficient experience.

ERP supplier managed Project. They appointed a project manager from their side who would make sure that set goals were met within time limits. JKS Products had own core team that was operating under project manager. Core team had weekly meetings with each other and approximately monthly meetings with project manager. Everything that was related to the project was planned and scheduled carefully. Core team was responsible to involve correct people for certain areas from production to implementation. People that were chosen also got responsibility for their area of expertise. Separate teams were made for different things. Production, sales, and management have all their own teams and chosen people who are responsible for their teams. These teams will then map their own resources.

5.2.3 Teach people

Make sure that everyone understands how to use ERP. If people don't know how to use it they just tend to go back their old ways – outside of ERP. When new tools, machines, software, and ways to do things are implemented, it's very important to educate people that are going to be using them. If teaching and education is skipped, price tag will most certainly be higher – not lower. If employees don't know how to use new systems, then result can very well be that new system will remain unused – this is waste of money and resources. Teaching and educating employees will encourage them to develop them self's and their skills.

While implementing ERP in JKS Products there was a core team of three people that were “Project champions”. This team was responsible for implementation, training and all practical things that were related to implementation process. When courses or teaching was needed, core team mapped the available resources and if it was possible, provide them. People that were interested got involved.

5.2.4 Challenges of implementing ERP

There are multiple challenges and potential problems while implementing ERP. Management can ruin the whole thing. In fact, ERP should not be even considered if management is not motivated and 100% behind it. If old management do not understand what the benefits of ERP is and it's clear that ERP is needed, then it's best to change the management before starting to implement ERP. In JKS Products new investments did not take any fire until new younger CEO started at the beginning of 2017. All reform of the company, even small ones, failed before new management. Moving data from old system is also challenging. Same time it can be good opportunity to get rid of obsolete information. Old data needs to be analyzed and decision need to be made what data will be moved to new system and what will be abandoned. Integrating old data to new may be difficult to achieve in practice. This might bring up the cost of ERP installation. In many cases it might be good idea to merge all information to one system. (Slack, Brandon-Jones, Johnston, 2016, 479.). In JKS Products this system is Lemonsoft. When all essential product information can be found from one place then all operations become much more fluent. For example, selling and exporting products outside EU requires proformas for the customs. If all the product information is input correctly then getting a proforma is as simple as printing it out from the system. All information required by customs is already there.

One of the biggest challenges of implementing ERP may very well be resistance to change. It seems that older people can be very strongly against ERP and fail to see its benefits. Younger employees are in most cases very excited to get to use ERP. They also understand why it's important to have ERP and what benefits it provides. For example, if some purchase part runs out in production people can check from computer terminal if it has been ordered more, how much it has been ordered and when it is arriving. Before ERP this kind of thing always took work time of two people when simple things like this needed to be asked face to face. For some reason older generation rather likes to check everything on location even when this means lots of walking around and searching for certain products. Attitude toward ERP is many times dismissive and the information ERP provides is ridiculed.

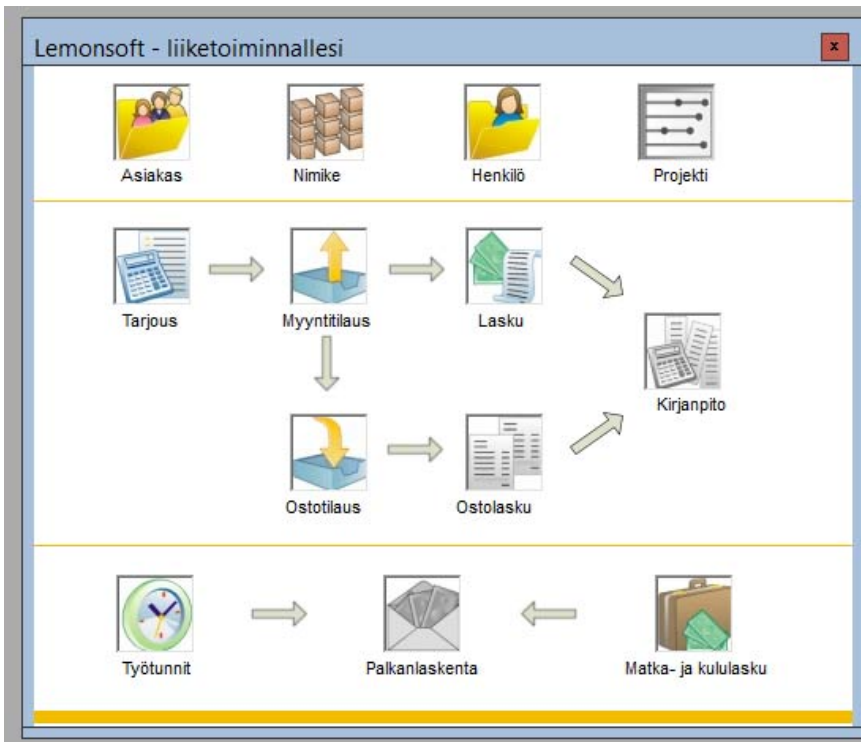
Big benefit of Lemonsoft is that company behind it can provide high-quality consultation. They have extensive experience of implementing ERP on many kinds of company. All consultation has come through Lemonsoft and there has not been need for any outside junior consults.

5.3 Results and what next

Main goals for ERP in JKS Products are to build customer register in ERP, save all quotation and sales events in ERP, run production completely through ERP, control stock levels with ERP and get real time information of company status. Part of implementation process was to change accounting office to a new one. New accounting office is also using same Lemonsoft system, so they also have direct access to same information as ERP users in the company. After new system is up and running then first step is to start using it daily basis on all operations. New information must be constantly input to the ERP and existing information must be updated.

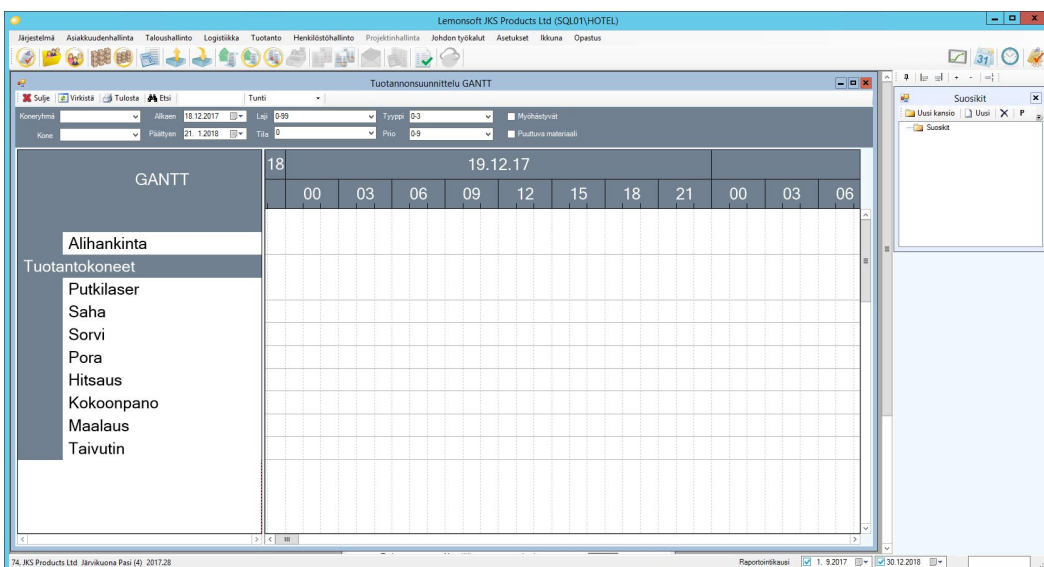
5.3.1 Keeping everything under control

Someone needs to keep following that everyone will use ERP and that it's being used correctly. If ERP is not used right way the benefits of the system will drain into sand. Investing to a new saw and tube means that production design needs to be taken to a completely new level. No longer can all the production have handled with pen and paper. One big and essential part of the production development project was to invest ERP system. After carefully considering different possibilities, Lemonsoft was the software platform that was chosen. This meant that old Fivaldi software needed to be given up and same time accounting company needed to be changed to a one which supported Lemonsoft. This was very important move, because when company moves to new software, it is going to need all the possible support. Moving from one software system to another is always a big leap. New accounting company had experience of Lemonsoft and they were able to help on most of the problems that were faced.



PICTURE 4. Lemonssoft has multiple sections that it operates (Lemonssoft, Pasi Järviukuona 2018)

Lemonssoft is extensive software. Not every user needs everything that ERP software can offer, so it's justified to limit some areas of the program and get only licenses that are needed. Picture 1 shows process menu of Lemonssoft. It is a summary of most needed parts of the program. Lemonssoft provides lots of versatile tools so customization is not needed in most cases. So far JKS Products needed to use customization in only one work order form. In the future next customization will be proforma form. However, all this is quite minimal yet important modification.



PICTURE 5. Lemonssoft provides powerful tools for production planning (Lemonssoft, Pasi Järviukuona 2018)

Lemonsoft makes possible to run all the production through it. It does not matter if its own product or subcontracting that we are selling. We can input it to Lemonsoft, run the production through it and get data if work was profitable or not. One simple method of scheduling works is by use of Gantt charts, which presents time as a bar on a chart. Tools like Gantt provides visual information that is easily understandable. These help to see if we have enough capacity to sell work out or not. (Slack, Brandon-Jones, Johnston, 2016, 336.) Lemonsoft also provides data about production times, storage values, work times and many other things that was not easily available before ERP.

Without ERP system the risk of this production development project and machine investments would have been higher. When company grows and its operations grow, it inevitably means that things get complicated. There are more “moving parts” that needs to be taken care of. ERP is very good tool to control all this. It is also a tool that leaves lot of room for operations to grow.

5.3.2 Productization of Company

One way to see future benefits of ERP is the productization of company. This means that everything in the company is build, designed, and documented so well that even in the case were all the employees would be replaced, none of the company operations would not stop. Requirement for such well running company is that every bit of information that is needed can be found from various documents – not just ERP. Product structures will provide information that what items are, and material is needed for what products. 3D models and drawings will tell how product is put together.

Company’s value is higher if it is well organized and not depended on any single person. Who would want to buy a company that has all its operations only inside someone’s head?

5.4 Summary

Implementing ERP can be a huge work, but benefits are undisputed. If implementation has been successful it can greatly improve productivity and work efficiency. In production all material is prepared and ready before production even knows what their next task will be. Sales is very effective because drafting quotations and making sales order can be done within the matter of minutes. Many tasks that used to require lots of manual labor can be carried out by ERP in a much more efficient way.

Downside is that if there is resistant to change using ERP can also cause much more extra work. If

even one person keeps operating bypass ERP system, it has immediate effects on data that ERP can provide. If material is just ordered and put in storage without processing data in ERP then whole system becomes unreliable. This causes a lot of extra work because in many cases material balances needs to be calculated manually.

Company like JKS Products is nothing without ERP. With the help of ERP all essential functions of the company can be handled by anyone that has proper skills. Things are not inside key people's heads. If someone gets sick or changes company, new people can be hired and train to follow predecessors work with relatively small effort. When company works through ERP, everything leaves a mark or track that is then easy to pick up and follow by any employee.

6 CONCLUSIONS

The purpose of this thesis was to study and think of solutions that would allow JKS Products Ltd to grow, develop and move forward from its status. The company, which was more than ten years old, was freezing in place in terms of both work methods and growth. The research question was "How to make a company grow, develop and move forward?". There were many problems and challenges to be solved on the way to growth and development in the company. The biggest challenges were inside the company.

Most of the company's management has been the older generation since the beginning and their area of expertise has been on the technical side. Many of the older generation's ways of operating and managing have been outdated, but there has been a desire to stick to them. The new CEO, who was hired in 2017, came with a lot of good reforms, but their implementation has been very tedious due to resistance to change. Although the new operating processes have been described, justified, and explained in the management team, their implementation and use have been systematically neglected for years. The company's management has not succeeded in pushing for reforms so that implementation of them would have gone well. The company board that has been operating since the establishment of the company has been incompetent and completely incapable of making any solutions that would have put the situation on track and the reforms presented in this thesis would have been put into operation. The reason for this is that since the very beginning, there have been differing views within the company board on where and how the company should be taken. In the winter of 2020, the old company board has been disbanded and replaced by a new one. The new board has only one owner, the other members do not own the company. A completely external expert with long experience in the same field has been sought to chair the new board. The company also lacked the right kind of leader who would have been better able to address grievances and motivate employees to succeed in their jobs. Although reforms have been made, their implementation is only halfway through. The most important challenge for the new company board will be to find the right person to run the company and to build a functioning organization where each employee has their area of responsibility. One of the most important tasks of a new manager is to make sure that each clerk and employee also do their job. The reforms started in 2017 must also be completed now.

During the first ten years of operation, the company's business environment has remained broadly similar. There have been no major changes in the sector that have affected the company's operations in any way. The company's main goal has been to make its operating environment such that the company can

manufacture its products efficiently. The year 2017 brought with it a new CEO and many reforms. One of the reforms was a management team set up in the company, which in its weekly meetings began to monitor the situation of the company and its production. The establishment of the management team was a step in the right direction. At weekly meetings, unfinished business and projects always came up. After a few months, however, it became clear that the issues that came up in the management team were in many ways the same old things that never progressed and were completed even though there was an assigned person in charge. At this point, it became clear that people needed to be replaced or things would never be finished. After 2017, the company sought growth by investing heavily in subcontracting. The change in corporate culture planned to be implemented in connection with the investment was going to be big. The company introduced completely new technology in the form of a tube laser as well as an ERP system. This required new recruitments as well as training. The purpose of these investments was to bring new jobs and revenue growth to the company. However, the introduction of such large investments and changes was very challenging. The management of the company was partly against investment and threw itself into passivity just when work should have been tackled harder than ever. In the case of the tube laser, it became clear that the technical support and maintenance did not work as expected. This caused long interruptions in tube laser production, especially in the early stages. Support was not available from the device supplier so many things had to be learned and done by ourselves. Fortunately, support was obtained directly from the device manufacturer. The implementation of the ERP system was also challenging, as no one in the company had previous experience of how to use the ERP system, why it is used and what benefits are gained from using it. Over time, all these issues have been resolved, but it has not been easy. The new warehouse building, which was commissioned at the end of 2017, has enabled more efficient use of production facilities. With the help of the warehouse, the workspace has been freed up when the material to be stored, semi-finished products and finished products have been transferred to its separate warehouse. On the other hand, the organization and maintenance of the warehouse have not been successful. The goods to be stored are for the most part out of order, and the items in stock cannot be found without climbing the shelves.

All kinds of development in the company have been very difficult and challenging. New ideas have generally not been successful, and the work atmosphere has become such that they are no longer even presented. The main reason for this has been that almost every thought or idea presented has been categorically knocked out by management. Such an approach does not encourage anyone to think, let alone propose anything new when it is already known in advance that the idea will not be accepted. Just about any idea or thought related to the development of the company's own operations or product development has not progressed. The development of new products does not necessarily depend solely

on whether development work can be taken forward within the company. It may be that a new product can be designed, tested, and built, but for one reason or another, the product does not go on sale as expected. These examples have become over the years, but lessons must be learned from them and product development must not be stopped because of failures. The unhealthy work atmosphere that persists from year to year can only be remedied by bringing together a management team that genuinely works together as a team. The management team must consist of people who encourage employees, who are also responsible and take responsibility for the smooth running of the company. There is no room in a functioning management team for people who do not know how to present any positive aspects of anything. If there is a single person on the management team who opposes almost all the issues raised, this will cause a certain kind of paralysis of the entire company's operations.

Lemonsoft delivered an ERP system to the company, which was deployed in the summer of 2017. Deployment was handled by a project that Lemonsoft oversaw and ensured that the software would be deployed. The actual deployment phase lasted a couple of months. During this time, the old and the new system were used at the same time. During the implementation, the aim was to learn how to use the new system in the most versatile and efficient way possible. The deployment project was completed. The actual challenges with the new ERP system began when it should have been widely deployed in the company. In practice, this meant that new work had to be stamped on the system, the material to be ordered had to be purchased through the system in stock, the work to be done had to be entered into the production list and at the same time checking that all the necessary parts were in stock. None of these ways of working or processes had been used in the company before and now their implementation seemed challenging to employees accustomed to the old ways. Ignorance, indifference, and resistance to change stretched the introduction of the ERP system into a multi-year struggle. During 2020, the use of the ERP system has begun to reach a level where the company's operations largely run through it. One of the key findings regarding the deployment and use of ERP is that a company's management must be fully behind the use of its system. If management does not care and neglects to use the system, the result will be a laborious and expensive process that will take years, in which the benefits of the ERP system will be wasted.

The reforms started in 2017, which have been reviewed in this thesis, have not proceeded as planned in many respects on a practical level. Still, they have not completely failed, and lessons have been learned. Post-wisdom is easy, but if anything, essential should be highlighted from the 2017 decisions, then it is the management of the company. For a company to develop and make the right decisions to

enable development, it must have a functioning company board. The greatest weakness of JKS Products throughout its existence has been incompetent company board and management. The lack of these two can plunge even a good company into big problems. During the winter of 2020, however, decisions have been made that consider these problems brought about by the reforms and seek to straighten them so that the company is now on the right track heading towards a better future.

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