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Master's Degree Program in International Business Management

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IMPROVING SPARE PART SALES

Case: Andritz Oy

DPT 2012

ABSTRACT

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Improving Spare Part Sales

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This development project aimed to give a tool which simplifies spare part handling, saves time and minimizes errors in deliveries.

Order and inquiry handling has been time consuming and better technical knowledge of the equipment has been needed. The aim of this thesis was to facilitate the handling of the request and thus to save time. SAP (Systems, Applications and Products) also, properly used, can give the sales team a helping tool when offering spare parts for customers.

In this thesis, the sales process is explained and the importance of customer relationship management is discussed. The result of the project is a spare part structure of the machines that can be used easily when handling orders and requests.

The functional location structure gives Andritz a good tool as for time savings and minimizing errors in spare part deliveries. When the Enterprise Resources Planning system (ERP) is properly used it helps both customer and supplier. Even though it might be time consuming to make the structure in SAP, the implications are evident. At least the key customers should be taken into consideration when making the structures. In this way it is possible to get the full potential of a costly ERP system.

FOREWORD

This thesis has been written for Andritz Oy, Paper Engineered Services. I thank Andritz Oy and Magnus Holmqvist for making it possible for me to graduate while working at the same time in Andritz Oy.

Satu Peltola and Ilkka Virolainen acted as the supervisors of my thesis. Thank you both for being supportive during the final stages of my project. I also want to thank my colleagues at Andritz Oy who were understanding and helpful throughout my thesis writing.

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Appendix 1. Plant Maintenance BOM in SAP Functional Location

1 INTRODUCTION

Today's toughened sales and growth expectations force companies to take a good look at their capabilities. There are pressure to sell more and reflect if the strategy matches the business as it is today. Is the strategy unreachable or can we change our way of doing business to meet the grown expectations.

We face new challenges when it comes to ecological thinking. Everything has to be more energy efficient. This puts new pressure on the development of the new equipment. In this thesis the existing equipment and their spare parts are reviewed from the sales perspective. The thesis aims to find a cost-effective way to sell spare parts, offer sales techniques as well as help order handling.

1.1 Background

When I started working the company was called Andritz-Ahlstrom, which then was changed to Andritz Oy since Ahlstrom was bought by an Austrian company called Andritz AG.

I began my career in forwarding. After a few years she started to get more and more involved in purchasing and warehousing. Sales have also interested me and so I started also to do that. In 2007 I had my daughter and was on maternity leave for a year. I also had a son in 2009 and came back to work in the beginning of year 2010.

I have been working in the Kotka office in Paper Engineered Services-department. In my job I have handled spare parts that are in the mechanical fibre line and there especially parts that belong to bleaching and dewatering. The sales system is, however, the same all through the spare part handling despite the different mill areas and spare parts.

1.2 Objective and aim of the thesis

Spare part sales is an important part of Andritz Paper Engineered Services business. When machinery is sold, the customer will need spare parts to maintain the machine's workability for its full lifetime. There is also competi-

tor's machinery for which Andritz is able to sell spare parts. The basic question in this study is *how to simplify spare part handling* and through this serve the customers faster and more efficiently. This leads to customer satisfaction and potentially more sales. It also enables the employees to be able to improve and develop their own work.

In several product groups, spare part sales account for 70% of the order intake and have a healthy gross margin. This means that spare part sales have to be taken seriously. There is lost potential if a spare part sale is not handled accordingly.

Today a spare part sale is basically waiting for orders. For spare parts there is no clear sales concept at the moment. Customers order when they need a part. When sales representatives go to mills, they usually discuss bigger issues and spare parts are discussed alongside. They ask if the customer have any needs in that particular area which they are discussing at the moment about. When talking about machines, it is usual to offer maintenance which includes needed spare parts. However, there are also parts that can be changed more often and by the mill maintenance crew and warehoused by the customer.

Sometimes when customers order parts, the old part has already been broken and the need is urgent. This causes a problem both for the customer and Andritz as all the orders might be urgent and need special attention. To avoid this situation it might be wise to look through the spare part lists with the customer, mark the urgent parts, and define order limits to avoid more breakdowns. Sometimes failure of a cheap part fails may cause more damage and might even cause the complete machines to break down. This is really costly for the customer. From the seller's point of view it should be solved if the customer is aware of the parts that are critical and do they have these on stock or not.

The aim of the thesis was to improve spare part sales and the objective was to save time in order handling and minimize the possibility of delivering wrong parts. Time saving and accuracy of deliveries improves customer satisfaction. Using the ERP system, in Andritz case SAP, accordingly, it gives the sales-

persons possibilities to get up to date information on spare part sales when going to the customer and negotiate new deals.

1.3 The research structure

The challenge in this DPT a wicked problem. Such a problem differs from a tame one in the sense that it has no specific answer. the thesis only suggests a way to improve Andritz's spare part sales. Reflective practise in this case is very important; from time to time it is necessary to check if the ideas really work or if the concept should be changed in some way. The idea for this thesis came from tacit knowledge; I overlooked the possible difficulties and thought of how I would like to be served if she was the customer.

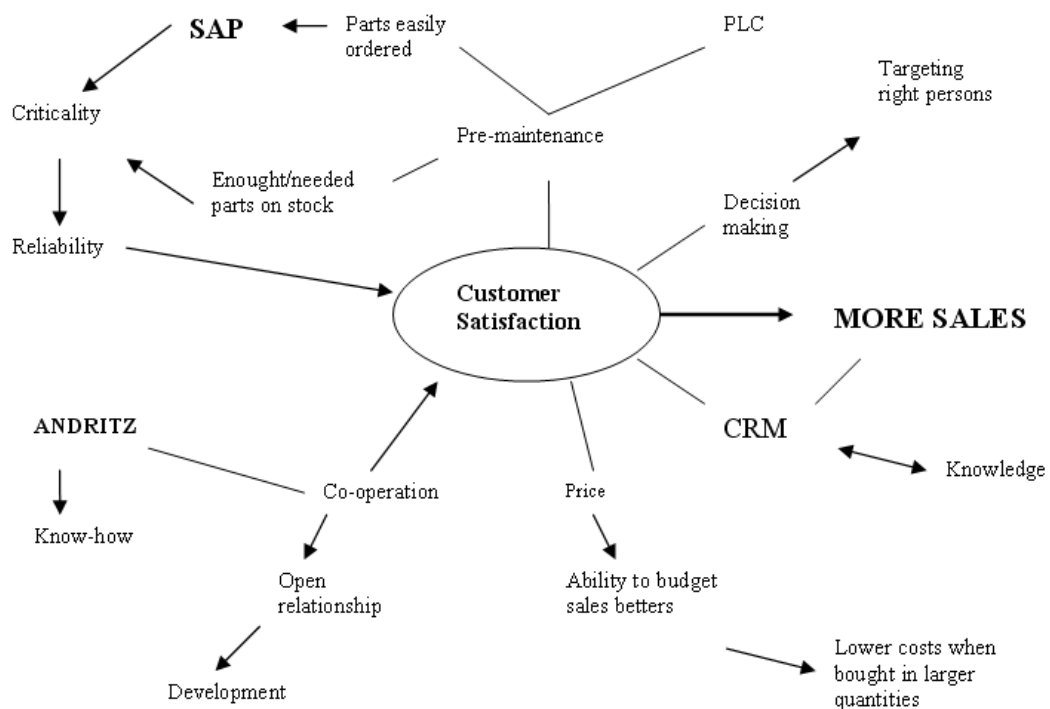


Figure 1 Mind map of the thesis

Figure 1 displays the main frame for this thesis. The thesis is about spare parts, not complete machinery.

The goal in sales is customer satisfaction. That, on the other hand, may lead to more sales and therefore profit. To achieve this, there are many variables that have to be taken into consideration. Proper customer relationship man-

agement is the key to achieve satisfied customers. Price is not necessarily the relevant issue. Good human relations play a bigger role in a working relationship. It is therefore important to choose the right persons for the right position in a company such as Andritz. CRM has been chosen to be one of the key elements in this thesis. As a sub issue, sales is also looked into as good sales manners have a big impact in customer satisfaction. The outcome of a satisfied customer is evidently more sales. Customer satisfaction per se is not discussed since the main question is about sales.

Further on, spare parts are introduced and the different characteristics of parts are discussed. In service business spare parts play an important role and therefore the different features are good to know.

The tool for CRM and sales in general is in Andritz SAP, which enables online information on sales. Using this technology, it was possible to target the sales more adequately. The focus was on one customer only, since the work was quite vast. Hopefully this thesis can be used as a guideline for future operations of materials management.

Many important things have been left out. One important issue is leadership which closely is related to CRM and the motivation of the sales force. Warehousing is also important but theses on the subject have previously been made. Customer satisfaction as such has also been previously written about. Therefore the key question in this thesis was improving sales.

1.4 The background

This thesis attempts to show how to ease the sales process. When the systems are up to date and the information available is adequate, time can be saved when handling orders. Also, when the orders are handled properly in SAP also the sales team can find up to date information on spare parts that has been sold to the mill. This helps in upcoming negotiations.

I created a functional location structure which in other words is the spare part list for a certain machine. Nowadays the information on the spare parts for a machine is scattered in several locations. There are old folders, electronic

spare part lists and databases. When all of the information is in one place, you do not have to search for the needed material.

The vast amount of places for the information is due to the fact that several ERP systems have been previously in use. All of these systems produced different manuals and spare part lists. Some folders are so old that the text is soon not to be visible anymore. This will be a problem in the future. Sometimes there might also be a modernization made to a machine and the information for that is important when spare parts are sold since the original spares may not be suitable anymore.

Especially in situations where a new employee starts to make order processing in Paper Engineered Service, it is time consuming to teach him to find the needed information in the large amount of information sources. The order processing itself is fairly easy when you have the needed information. Now when a new employee starts to work, it takes two peoples time to process the orders since it is not easy to find the information.

When a customer calls and asks for a specific part of a specific machine, time is saved when it is possible easily identify the part when it is in SAP. The functional location structure enables to focus the spare parts even to a specific area of a machine, meaning that all the parts are not on one list but separated to smaller categories. This saves time when the customer is ordering spare parts for that particular equipment. Time savings comes when you have the specific customer's specific equipment in the system and you do not have to search the correct spare parts in manuals which is extremely time consuming.

The information is also available for everyone, it is not related to time or space, as do the paper versions of the manuals. This is a big problem since the spare part books and manuals are in paper versions in Kotka office and some are in electronic form. Some manuals are even in German.

The process of collecting the data for the functional location might be time consuming but the saving in the long run is evident. Also, it is possible to add only some spare parts in the functional location of the machine; you do not have to add all at the same time. If the functional location structure was filled

when orders come, in time it would be complete and additional time for filling up the information was not needed. In the first stage, only the most vital spare parts can be filled in.

Ideally the equipment would have all the spare parts listed in SAP and then you could be able to add also price lists and supplier information which then would make order processing even faster and easier. This way existing resource could be used to more important issues such as development.

All-in-all, the aim is time saving and simplifying spare part handling. When the functional location structure is created, so much technical knowledge is not needed to handle spare part orders and inquiries. This saves both time and money in the long run.

1.5 The methodology of the research

The time frame for this DPT has been evolving since 2009. The focus of the thesis was finally focused on spare part sales. When looking at Andritz sales in general, spare parts are very important and the sales concept can always be improved.

The idea for the way of improving sales has been in the air for a while, but resources are needed to get the job done. The daily business does not allow such development since it is quite time consuming. Now we have an opportunity, both Andritz and the researcher to take a closer look at the process today.

In the fall of 2010, it was decided that we take two or more customers in the scope of this project but as this needs some closer attention, it was not possible. Some actions were made, but it was left in the haze of the daily business. In the summer of 2011, it was decided to focus only on Sappi Kirkniemi paper mill.

The method used in this thesis is mainly participatory action research. When conducting action research in a thesis, you are inside the problem, or in this case challenge, rather than standing on the outside looking in. It is important

to be an insider to be able to point out the most important issues (Somekh 2006, 4). This DPT is aiming to improve the sales of the spare parts, I am truly an insider. I have been working for the same company now for 10 years and I have found myself to become more pessimistic about some things. I try to overcome such feelings, but being an insider, I know where the problem points are when it comes to sales. Or at least I have a better perspective than someone who has not sold before. I also have a good aspect on the whole chain since I also have made purchases and invoicing.

Also when working inside a group it is easier to make changes rather than if you are on top of the pyramid so to speak. I am in a good position in the way that I know the workflow as a whole. I know the problem points when it comes to the different aspects before you are able to invoice the customer. Management rarely know the basic tasks when it comes to selling. There are many steps that are quite time consuming and which may be improved to save time.

When using SAP system, there are possibilities to make selling easier. Andritz have been using SAP since 2005 and now we are able to say which functions could be improved. When you have been using a system for a long time, it may be that you go blind for the problem points. Trying to keep an open mind and thinking out of the box is important when writing this DPT.

2 PARTIES INVOLVED

2.1 Andritz Group

Andritz is the world leader in pulp and paper industry, hydropower, steel and specialized industries such as feed and bio fuel technology, production systems and service provider. Andritz was founded in 1852 and has been growing ever since. Since the 1990s Andritz had acquired over 60 companies of which Ahlstrom Machinery is the most important. It made Andritz a global leader in supplying pulp production systems.

The headquarters is located in Graz, Austria. Andritz employs 16 100 people worldwide. Andritz Group has been listed in the Vienna stock exchange since

2001. Andritz sells its' products globally and is divided into several subsidiaries of which Andritz Oy in Finland is one.

Table 1. Andritz Group figures (Andritz internet, Financial figures, 2011)

IFRS, in MEUR	H1 2011	H1 2010	+/-	Q2 2011	Q2 2010	+/-	2010
Order Intake	3,644.5	2,303.7	+58.2%	1,978.5	1,395.3	+41.8%	4,131.9
Sales	2,011.1	1,562.2	+28.7%	1,087.4	829.9	+31.0%	3,553.8
EBITDA	157.0	123.2	+27.4%	88.3	67.6	+30.6%	307.3
EBITDA margin (%)	7.8	7.9	-	8.1	8.1	-	8.6
Earnings Before Interest and Taxes (EBIT)	123.1	92.8	+32.7%	71.1	51.4	+38.3%	245.5
Earnings Before Taxes (EBT)	127.1	96.4	+31.8%	72.1	53.1	+35.8%	247.9
Net income (incl. non-controlling interests)	89.7	67.3	+33.3%	50.9	37.1	+37.2%	177.0
Cash flow from operating activities	206.8	338.9	-39.0%	55.7	100.5	-44.6%	704.5
Capital expenditure	23.5	22.2	+5.9%	13.2	8.3	+59.0%	68.8
Employees (as of end of period, excluding apprentices)	16,119	13,457	+19.8%	16,119	13,457	+19.8%	14,655

In Table 1 are the financial figures for Andritz AG in 2010. The sales have improved in year 2011 and the trend is ongoing. At the moment there are big projects which bring profit for years to come.

2.1.1 Corporate strategy

As Andritz is a globally leading supplier of plants and services in many fields, the goal is to become the world market leader in all of the markets it serves. Andritz is focusing on generating more than 50 % of its sales from products related to renewable energies. To meet the customer's needs as quickly as possible, Andritz has a global presence in 120 locations worldwide. The closeness to the customer is appreciated. Research and development is seen to be important as well. Therefore 3% of sales are invested in R&D with an aim to minimize operating costs, maximizing energy efficiency and environmental protection.

Andritz will continue to expand and try to be a single-source supplier with full-line capabilities in all business areas. According to the policy, 10 % increase in sales per annum is the goal. This will be based on expansion; research and development as well as acquisitions.

2.1.2 Andritz Oy

Andritz Oy is one of the global leaders in providing pulp and paper industry equipment and services. Its product range starts from wood handling, fibre process, and chemical systems to pulp handling. Andritz' turnover is approximately 500 million euro and it employs 1 100 people. It has offices in Kotka, Savonlinna, Varkaus, Hollola, Tampere and Helsinki. The headquarter is located in HTC Helsinki. The chairman of the board in Andritz is Wolfgang Leitner (Andritz AG) and the CEO is Harry Rickamn (Andritz internet, 2011).

2.1.3 Pulp and Paper Engineered Services

Paper Engineered Services division has several lines that they serve; paper and pulper environment, refiner and auxiliaries, dewatering and bleaching, DIP and sludge handling, stock preparation, paper/board/tissue machines, sheet drying and baling and pulp drying.

Table 2 Pulp and paper mill figures (Andritz internet, 2011)

IFRS, in MEUR	H1 2011	H1 2010	+/-	Q2 2011	Q2 2010	+/-	2010
Order intake	2,037.9	748.7	+172.2%	1,226.8	408.6	+200.2%	1,388.4
Order backlog (as of end of period)	2,669.6	1,081.2	+146.9%	2,669.6	1,081.2	+146.9%	1,099.6
Sales	780.5	479.3	+62.8%	413.5	262.3	+57.6%	1,105.3
EBITDA	56.3	38.3	+47.0%	31.7	22.6	+40.3%	98.4
EBITDA margin	7.2%	8.0%	-	7.7%	8.6%	-	8.9%
EBITA	47.9	29.4	+62.9%	27.8	18.0	+54.4%	80.7
EBITA margin	6.1%	6.1%	-	6.7%	6.9%	-	7.3%
Employees (as of end of period)	5,466	4,409	+24.0%	5,466	4,409	+24.0%	4,851

In table 2 are the financial figures for Pulp and Paper Engineered Services for year 2010. In year 2011 there have been several bigger capital projects which will bring more sales for service department in the following years.

2.2 Forest industry

Paper industry is an important part of Finnish forestry industry. It is a crucial factor in Finnish export industry. First paper factories were founded in Finland in the 1600s but it started blooming in the late 1800s as a result of the Rus-

sian Tsar's political changes. Paper and pulp has been important cash when Finland bought machinery in the beginning of its independency. After the Second World War pulp and paper further grew its importance when the military industry declined. All in all, pulp and paper has been the most important export factor alongside mobile phones and metal industry. In 2007 the forest industry suffered from the recession and many mills had to close down. This trend is still ongoing.

Paper industry is quite vulnerable for changes in the world economy. The industry is nowadays dominated by North America but also northern Europe plays a big role. Latin America is also growing rapidly in the market.

Table 3 The 10 biggest players on the market in 2008 (Forestry, 2011)

Rank	Company	Country	2008 Net Sales (US\$M)	2008 Net Income (Loss) (US\$M)
1	International Paper	United States	24829	-1282
2	Kimberly-Clark	United States	19415	1690
3	SCA	Sweden	16965	857
4	Stora Enso	Finland	16227	-991
5	UPM	Finland	13920	-263
6	Oji Paper	Japan	12788	114
7	Nippon Unipac	Japan	11753	55
8	Smurfit Kappa	Ireland	10390	-75
9	Metsäliitto	Finland	9335	-313
10	Mondi Group	UK/South Africa	9466	-310

Forest industry is not only about paper and pulp. Wood is used in other factories as well. Finnish forests are mainly family owned. Only 25 % is owned by the state and a mere 10% by the mills. The forest in Finland creates jobs, livelihood and prosperity in the Finnish society. The National Forest Programme alongside the Forest Act and Nature Conservation Act ensures that the principles of economic, social and ecological sustainability are taken into account.

The paper mill in Kirkniemi belongs to Sappi Limited group. Before it belonged to M-real group which was previously called Metsä-Serla. The mill has be-

longed to Sappi Limited group from the beginning of year 2009 and the mill was founded in 1966. Their main product is coated paper.

3 AFTER SALES SERVICE AND SERVICE CONCEPT

A process is a chain of activities. It has a clear beginning and an end. In Andritz Paper Mill Service such an event is the order process. It begins with the customer's inquiry and ends with the customer paying the bill. When studying the processes the starting point is the core competence. But that is not enough. To create customer satisfaction and loyalty the processes are important

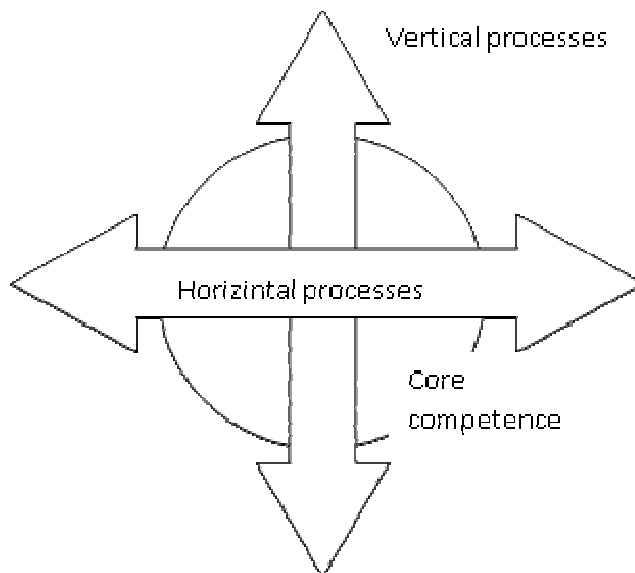


Figure 2 Core competence and processes (Kvist, Arhoma, Järvelin, Rääkkönen1995, 11)

Processes can be divided into two categories; horizontal and vertical as shown in Figure 2. The horizontal represents in our case the affectivity how to handle orders. Customers get more satisfied when orders and inquiries are handled as quickly as possible. The vertical process represents the management in the company. This includes training which helps to strengthen the core competence of the company. (Kvist, Ahomaa, Järvelin, Rääkkönen, 1995, 11) The aim of this thesis is to show how to strengthen the horizontal processes and build in that way customer satisfaction.

3.1 Spare parts in an industrial environment

Andritz Oy provides customers with equipment and service. Service per se is invisible and in this thesis we will concentrate on spare parts, which also are a service to the customer.

Spare parts are needed to ensure the working capability of a specific machine for its planned lifetime. They are needed both for industrial and consumer products. In this thesis it is concentrated on industrial spare parts.

Spare part business is commonly said to be a very lucrative business. In Andritz it is said that approximately 70% of the revenue comes from spare parts. Therefore it is vital to make sure that all potential is used. According to Cohen, Agrawal and Agrawal (2006, 129,138) a business begins to offer solutions instead of products, it will prosper. By solutions they mean after-sales services – conducting repairs, upgrades, reconditioning of equipment, inspections, day-to-day maintenance, technical support, consulting and training, but in the long run spare parts are also needed.

3.2 Definition of spare parts

A spare part is a part that is used to replace failed parts. Spare parts in forest industry are used for breakdowns as well as planned maintenance. Ideal would be to change parts before breakdown since a malfunctioning part can cause additional breaking of part or in worst case scenario breaking of the whole machine. This thereafter can have serious implications on the whole production. Pre-maintenance is therefore preferred.

Nowadays, when mills have minimized their own maintenance crew, Andritz as a supplier should be able to help the customer more. We have supplied the machinery and we are able to predict the product's life cycle.

All parts of a machine cannot be categorized as spare parts. This is not the case in Andritz as almost all part can be said to be spare parts. Spare parts can be divided into two main categories; urgent and normal spare parts.

There are many ways to categorize spare parts. Huiskonen (2001, 127) divides spare parts into urgent and normal spares. Tsakatikas, Diplaris and Sfanskopoulos (2008, 98) divide parts into on-site repairable, workshop repairable and non-repairable parts. Fortuin and Martin (1999, 950) refer to non-repairable parts for disposable, throw away, expendable or consumable. Consumables in Andritz mean standard parts such as bearings. These parts are not necessarily linked directly to some machine and can be bought at low cost due to big order amounts.

Huiskonen (2002, 120) also categorizes spares into spare and wear parts. This categorization fits Andritz' parts best. The difference between these two is the predictability. Spare parts have random failure as to wear parts have a predictable wearing pattern.

Andritz' goal in sales and marketing is to maintain customer relations and increase sales. The customers may not have the expertise when it comes to knowing the recommended changing period of a particular spare part and this is where Andritz can be co-operating with the customer and increase spare part sales. It is important to visit the customers regularly and check their storage situation when visiting. Andritz can then recommend spare parts that are needed. It is important also that the customer know whom to contact.

Spare part business compounds of the following processes; acquisitions, warehousing, sales and delivery. Additionally a critical part of spare part business is also customer service and maintaining product information (Suomala, Sievänen, Paranko, 2000, 59).

Often when sales are lacking and you fall behind in the sales figures, companies try to improve their sales by sending the salespersons for schooling. Companies should look at their sales process instead as a whole and find out if they are receiving the wanted outcome. But the ability of the salespersons is also crucial and their support should be adequate. You should follow on sales on a regular basis and make needed adjustments if the outcome is not satisfactory. It has been proven that money is not the only reward you get from sales. For a company figures are important but for persons human values are important. The ability to improve your skills and possibility to move forward in

your career is as important factors as money, if not more. This puts new strain on the leadership in today's business world. Business leadership has been excluded from this thesis but would make an interesting topic for a DPT.

3.3 Sales processes

The sales process can be divided into seven different stages as shown below in Figure 3. Every step is important and failure in one of the steps might lead to lost business. Below is shown the selling process and it is described more closely.

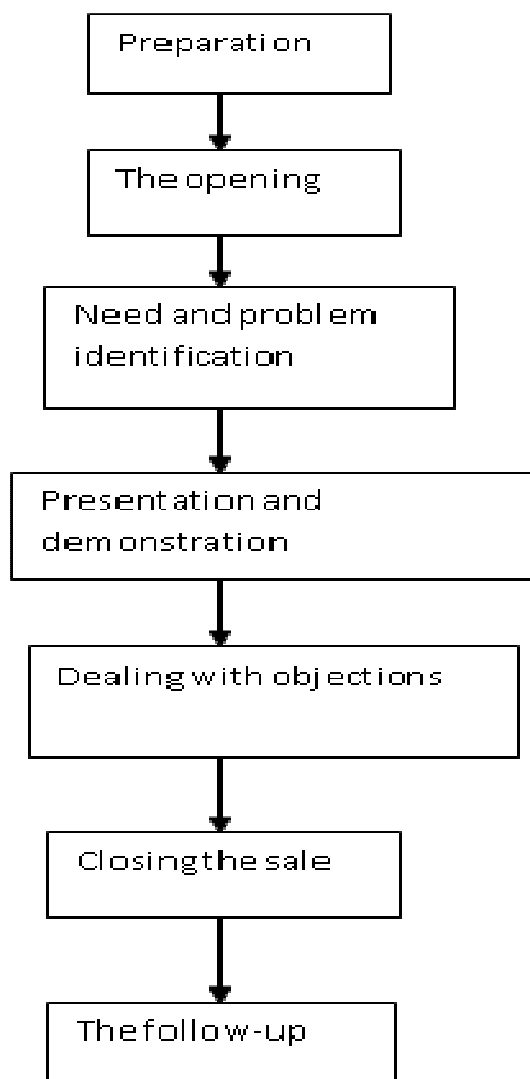


Figure 3 The selling process (Jobber 1998, 357)

Sales persons should have knowledge of the customer before the meeting. Many factors influence the buying decision, such as previous experience.

When the seller acknowledges this, he has the advantage to adjust his selling point to fit the customer and through that, build trust.

Factors such as marketing also strongly influence the buyer's behaviour. This is though more relevant in the consumer market than in business-to business market.

In the preparation stage the seller tries to find customer contacts. It might be new ones or keeping contact with the existing. In both cases it is important that the customer benefits from the product and he has the purchasing power to acquire it (Kairisto-Mertanen 2003, 47).

Preparation in this context also means finding out what the competitors are doing on the market. In this way the salesperson is more prepared for difficult questions in the negotiation. Preparation also builds confidence and allows the salesperson to make convincing presentation materials which helps him to remember all the important benefits of his product.

At the first stage of selling the salesperson should also identify the customer's key persons, i.e. who is the decision maker (Jobber 1998, 360). It is not worth trying to convince the wrong person of the superiority of your product. Especially in paper mills there are several positions and it is hard to know who the decision maker in the end is.

In the negotiating stage first impression is important. It is said that a person makes his assumption of a person in the first two minutes. It is also said that the seller and buyer should meet 2.6 times before a trusting relationship is built (Kairisto-Mertanen 2003, 47).

At this stage customer's needs are mapped with straight questions. There might be needs that are visible and hidden. The hidden needs are called "the need behind the need" (Kairisto-Mertanen 2003, 48). A skilled salesperson can read between the lines and find out both of these needs.

It is important that the salesperson keeps the red line in his hands and lead the negotiation. In an ideal situation the customer participates in the discus-

sion. In this way he will get the answer to his problem. When the customer is actively working together with the seller he starts to make the purchasing decision at an early stage of the negotiations. This type of negotiation also is the beginning of a long term relationship.

An interesting point in selling is that people have certain expectation of how a salesperson of a certain product category should behave. If the sale strategy differs from the expected, more focus is given on the issue on behalf of the customer (Kairisto-Mertanen 2003, 49). This could be an advantage if used correctly.

Even though the sales person should keep the red line in his hand, a skilled salesperson is the one that gives the customer the lead in the negotiation. This way the customer is able to express his needs and the salesman gains the information necessary to get the sale. It is important in discussions to follow all the time that everybody understands the problems and solutions that are talked about.

It is unusual not to encounter objections in a negotiation. It, however, should not be seen as negative but positive; it highlights the issues that the customer sees important. It is important at this stage to listen to the objections and not interrupt since it shows a lack of respect. This way no-one will lose face and which is important in negotiations. The salesman should agree with the customers view before introducing a solution (Jobber 1998, 361). Cultural differences should be taken into account in negotiation. Face-losing is seen as extremely negative in some cultures. Multicultural aspects are not handled in this thesis, but make interesting further reading.

After getting the deal it is important to follow up on the customer. The customer then feels that he has made the right decision and this might lead to a long term relationship. Cognitive dissonance, or in other words, the anxiety after the buy is minimized with follow up (Jobber 1998, 363).

3.4 Company's orientation

Production orientated companies are trying to increase their profits by strengthening their deliveries and motivating the sales staff. The salesmen in such companies mainly just wait for orders and deliver the goods. Sales orientated companies try to achieve the profit goals by strengthening their sales efforts. Both of these ways only try to get orders, not build long term customer relationships.

The management has a big role in the way a salesmen works. The ways described above represent a typical salesman. The customers will all get the same service and same sales speech.

A *market oriented company* works from the customer's needs and expectations. It is a philosophy that has been for 50 years said to increase a company's success factor in the market. In this way you use the knowledge that you receive from the market and adjust your way of doing business to match the demand. Andritz market philosophy is market driven. It works in a special industry field where technology, competition and regulations dictate the core competence (Kairisto-Mertanen 2003, 76).

Market orientated companies consist of three main behavioural components; customer orientation, competitor orientation and co-ordination of operations. The customer and competitor orientation in this context means gathering information on customers' needs and competitor's action on the market. Co-ordination of operations then is to make sure that the work is fluent inside the company (Kairisto-Mertanen 2003,77). This might be that the systems used in everyday work is matching the needs of the employees. It is easy for everyone to work effectively. This thesis tries to give a solution for the co-ordination of operations by making it easy to serve the customer fast and removing the possibility for wrong parts quoted or even delivered.

3.5 Sales orientation

A customer oriented salesperson is kind and supportive towards the customer and tries to find solutions that help the customer as shown in Figure 4. It is

opposite to the sales style described in a company in the beginning of chapter 3.4 where the salesperson is only trying to get one time sales. The salesperson works with the customer trying to help the customer to make the right decisions for his specific problem. This style is more towards long term relationships and co-operation (Kairisto-Mertanen 2003, 77).

Sales oriented salesperson	Customer oriented salesperson
Interest in selling	Interest in customer
Hard sale	Soft sale
Rehearsed sales speeches	Questions and discussion
Talking	Listening
Pushy sale	Offering purchasing possibilities
Presenting features	Offering perks
Talking without knowledge	Consciousness of needs

Figure 4 The mind states of the sales orientated and customer oriented salespersons (Kairisto-Mertanen 2003, 78)

Customer oriented sales style is most suitable in business areas where the following factors are met 1) the salesman can offer several solutions for the customers problem and can say which ones are the best for this particular customer, 2) the purchasing decisions is complex, 3) customer has a co-operative relationship with the supplier and 4) repetitive purchases and purchases made due to recommendations are vital part of the sales.

Key issues for customer oriented sales are listening and finding out the needs of the customer, openness, offering vital information, keeping promises and thriving for long term relationships (Kairisto-Mertanen 2003, 84). From this one can draw the conclusion that choosing the sales staff is extremely important. The best salesman is a good listener and has good people skills. Only by this the company can build a good co-operative relationship with the customer. It is the marketing- and sales management that has to convince the salesmen of the best technique to use.

Langdons sales courses emphasize this sales style. It moves away from profit thinking towards customer satisfaction which in the long run brings profit. Langdons sales style is described in chapter 3.6.

3.6 Customer oriented sales style by Langdon

Andy and Steve Langdon have run sales and leadership courses for over 15 years. Here are some helpful facts on sales and negotiating. The points are adapted from their training material (Langdons 2010).

1) Be a detective – use your own style, be curious, don't make assumptions and remember to be a gentleman

Make open questions and reflect on the customers remarks.

2) Find out needs – adjust your selling point to match

When the needs are thoroughly discussed it is easier to sell the benefits of your solution.

3) Energy & benefits – listen with high energy

Salesmen often have high energy when starting to talk about benefits, but it should be the other way around. Listen to the problem with energy and let the customer be energetic when you start to tell about your solution to the problem.

4) Create trust – take risks below-the-line

Going below the line means that you show your vulnerabilities. When you go below the line as a leader, you tell about your previous mistakes when as a salesman that you are committed for a long term relationship. These actions create trust and then you can focus on selling. It also means that you are sincere in your actions. In such a co-operative relationship it also means that you should be able to talk about the negatives and you can show where you are lacking.

5) Follow signals, both verbal and non-verbal – let the customer be in control

Most sales training focus on the salesman being in control. This might though lead to unwanted outcome; difficult questions from the customer, missed opportunities and the customer might feel pressured.

In customer in control the discussion is more important than the outcome. The customer decides when it is time to move from small talk to business. As a metaphor you can use a missile that follows the discussion. This approach requires less preparation of the salesman and build a better relationship since the issues talked about is the customers. From the salesman's perspective, it is quite hard to let go of the control and he cannot be on "autopilot". However, it is said that this method is effective 90% of the time as salesman in control is only 3-25% effective.

6) Small talk – give personal information and ask less personal questions

The weather or the trip to the customer is not small talk. Such issues should be talked about only for about 45 seconds. Small talk is more personal, you give personal information to the customer such as hobbies or link happening to time such as talking about last summer.

The salesman must be aware of the signals to stop small talk; answers are becoming shorter, pausing, sighing, looking at the watch, etc. If you talk about hobbies, it is easier to start talking next time when you can ask about his interests.

7) Answering difficult questions – give short answers and then diagnose

The salesman should try to turn the negative to positive and try to find solutions with the customer.

8) Respond positive remarks – be polite

Concentrate on the whole picture and that way you create a positive atmosphere and it will be easier to solve the negative issues.

9) Problem focus – get interested by spending time on the “disease” before you go the medicine

Customer might be used for the salesman to give answers straight away. It is thought very important to find out all the things related to the problem. In an open discussion, people often have it easier to talk about the problem.

10) Lobbying beforehand – over coffee or on the phone, informally ask how to make the meeting most useful

Lobbying beforehand can be that you call the customer before the meeting of you get there earlier and have some time to have some small talk with the customer. It will help you in the meeting since you might have created an ally. When calling the customer beforehand you may also get valuable information on the issues that the customer really wants to focus on. It is also important to remember that when lobbying you are not trying to sell, more of finding out what the customer needs.

11) You appeal – focus on customer

Avoid talking in your presentation about “I” or “our company” rather use “you”.

12) Interests behind positions – “why?” not “what?”

13) Process – how can we come to a win-win situation today, be creative

Discuss both salesman’s and customers’ needs and try to find a solution that suits both. Separate people from the problem and work on BATNA; best alternative to a negotiated agreement.

14) Avoid yes but – “good presentation and the only thing...”

A situation where the customer to loses face should be avoided. If there is a different opinion, focus first on the positive and explain your point.

15) Be lucky – talk to people, listen, be positive, learn from failure

All in all, be relaxed and build yourself a network of luck. Often lucky people are more open to new experiences. If you fail, try to see the good in bad.

It is vital for a company to find the right persons for the right jobs. A good salesman is talented, has the right attitude, values, motivation and skills. To be a good salesman means continuous developing of strengths and abilities. When talking about managing it is important to know what the targets are and train the salespersons in the areas that need improvement. There is no gene that ensures that you are skilled salesperson but it takes effort both from managerial and personal side (Nieminen, Tomperi 2008, 20).

4 CUSTOMERS

“Customer relationship Management is an enterprise approach to understanding and influencing customer behaviour through meaningful communications in order to improve customer acquisition, customer retention, customer loyalty, and customer profitability” (Swift 2001, 12). In other words it CRM is about the relationship between the supplier and the customer. To have a good relationship it means that the communication must be two ways, not only one time transactions. And to be able to manage the relationships they must be recorded and maintained. With sufficient CRM you are able to target the right customers with the right offer through the right channel at the right time (Swift 2001, 14).

This chapter describes the relationship between the customer and a service provider. Successful service providers thrive for best practices with the help of for example benchmarking. The service company is bound to listen to its customers and understand their value, more precisely its key customers, in order to be prosperous.

4.1 Customer's voice

Customers' expectations are at two levels and they are flexible. The expectations can shift between the desired and the adequate level, and the area in the middle is described as the tolerance area. The tolerance area is considerably

smaller when the customer is viewing more important features. (Ylikoski 1997, 84-85).

A gap analysis can be used to identify the gaps between the customer's and the supplier's perceptions of the provided service quality. When customer's and supplier's views match, there will be no gaps and the quality can be considered ideal. If the supplier cannot meet the customer's expectations of good quality, a gap in quality appears.

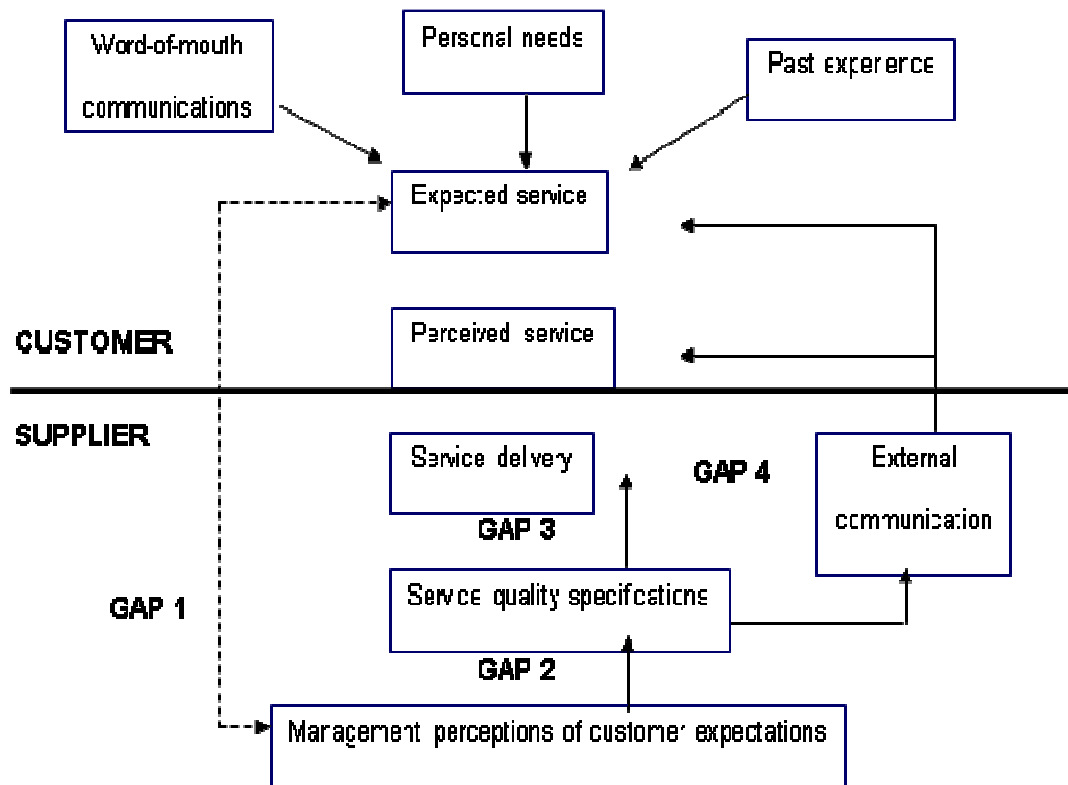


Figure 5 The service quality gap model (Grönroos 2001, 146)

From figure 5 we can identify the five gaps between the expected and perceived service quality from the customer's point of view. The gaps are:

1. Customer expectation – management perception gap
2. Management perception – service quality expectation gap
3. Service quality specification – service delivery gap

4. Service delivery – external communication to customers gap
5. Expected service – perceived service gap.

The first gap develops, when the management's apprehension of the customer's expectation differ from the customer's real expectations. For example, if the management does not receive -or ignores- sufficient feedback on their company's performance, they do not know how to offer the right kind of services to their customers.

The second gap appears when the management of a service company understands the standard quality differently than the customer. For instance, product-related quality has been emphasised more than the actual service quality.

The third gap embraces delivery of the service. The personnel, which actually gives the service to the customer, may not be committed to the same values and perceptions of quality as the management is. Alterations in the supply and demand may also cause poor service delivery; meaning that in busy times the employees may neither have the time nor the willingness to serve the customer properly. This gap may also be avoided thru proper order handling. Easy availability of the information needed for order handling ensures faster order processing. In Andritz case at the moment this gap may be a problem.

When the service company promises too much for example in advertising, the customers may not always get what they expected or were promised to receive. This phenomenon is known as *the fourth gap*.

The fifth gap is the most obvious one; it is the difference between the actual performance of the service company and the customer's perceived service. As being the last gap in this model, and if the previous gaps have not damaged the service experience, this gap may destroy the customer's positive perception of the entire service (Kuusela 1998, 123-127).

The gaps can be avoided with improved internal communication, but more importantly, with communication with the customer. When desiring to avoid the gaps in the customer service process, one could, for example, perform a marketing research to find out what the customers value in their supplier's services (Kuusela 1998, 125).

In order to listen to the customer efficiently, according to Berry and Parasuraman (1997, 67) five guidelines could be considered. The system with these guidelines motivates both managerial and non-managerial employees in the company to improve service. The guidelines are:

1. Measure service expectations
2. Emphasise information quality
3. Capture customer's words
4. Link service performance to business results
5. Reach every employee.

When measuring service expectations, there are two levels to be considered: the desired service and the adequate service. The desired service is what the customer wants the service to be, and the adequate service means minimum-level service that the customer tolerates (Berry & Parasuraman 1997, 68).

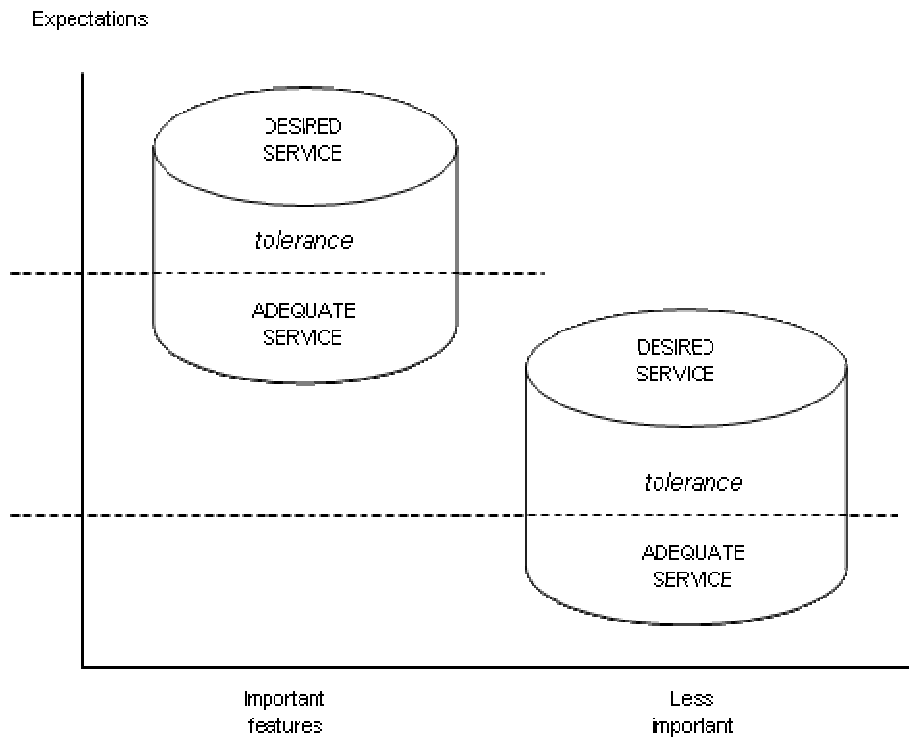


Figure 6 Tolerance zones of services (Ylikoski 1997, 85)

Figure 6 by Ylikoski 1997 illustrated the zones of tolerance in services, and the desired and adequate service levels considering “important” and “less important” features of the service. Berry and Parasuraman (1997, 68) state that service industries should investigate their service reliability more than the tangibles of the service. This means that the customers value more, for example, the reliable maintenance service than the documentation.

Often service companies measure only the perceptions of their customers, but more importantly they should focus on the expectations of the customers (Berry & Parasuraman 1997, 69). However, measuring the expectations is not easy, since customers can without significant effort tell the supplier what they look for in a good service experience, that is, their perceptions. Expectations of the future service encounter can be more difficult to explain, maybe because it is in conjunction with the specific supplier.

The quality of information collected from customers or employees is ensured, if an outside market researcher is used. This also creates credibility of the results, and mutual trust between the employees and the management. To be

understandable and utilisable, the data must be clear and specific enough. Furthermore, the right questions are to be asked at the right time, when the data is needed for example in a decision making process. When taking the habit of making regular customer satisfaction surveys, valuable feedback of improvement of service quality can be obtained. Regularity creates and makes it possible to see a trend in the service quality in the company. The trend reveals the continuum and from it the company can see the possible misgivings and strengths (Berry & Parasuraman 1997, 70-71).

The best way to capture the customer's word is to pose him an open question, then he can freely express himself. The same question should be asked on a regular basis, to see the above-mentioned trend (Berry & Parasuraman 1997, 72).

Linking service performance to business results tells the achievements gained in actual financial figures, it tells whether the service quality improvements have turned out to be successful. Every employee matters in a service company. They perform the actual service to the customers, and have the closest contacts with the customers. The actual service quality is born in the "moments of truth" (when the customer and the supplier physically meet), during the performance of the service. Every moment of truth affects the customer's perception of the service quality, and builds the future expectation of the service when he the next time associates with the company. Furthermore, the image of the service company is formed during the moments of truth (Ylikoski 1997, 165).

4.2 Key customers

Companies interact with their customers and form relationships with them. Ability to maintain better and closer relationships with the customers depends on the willingness of the service company to change its usual service processes according to their customers' expectations. The customers' expectations of a good service relationship can be revealed with knowledge about the customer and integration and alignment of the key processes. Business process management, partnering, employee empowerment and customer satis-

faction management have to be mastered. For the service industry customer-responsive strategy is useful in the relationship management for all customers. In business-to-business markets, however, the collaboration with customers and bonding with channel partners should be utilised. The choice between or combination of these two strategies depends on the company's resources and devotion to the matter (Day 1999,142).

4.2.1 Customer-responsive strategy for services

A service company which is able to keep its key customers is usually excelling in market driven thinking, and their strategies include adding customer value through service enhancements, incentives and tailored interactions. In markets which have similar services to offer to their customers, a customer-responsive strategy is appealing. In the similar markets the usual competitive advantages have diminished or disappeared completely; the customers react only to the price of the service and are less loyal. A service company needs to alter its offerings to lure the customer with a value-added service. The key customers should feel that they receive better service than the "usual" customer. The creation of this feeling can be achieved with precise information of the key customers and highly tailored flexible services (Day 1999,143-144).

Key customers, or in other words, the most valuable customers are recognised by the high lifetime value. The lifetime value of a customer is a combination of high annual revenues, profitability and long-term possibilities. The problem lies in the forecasting of the customer's future behaviour. The past loyal behaviour is not a good guideline for the future, because the customer might have been loyal to the company in the absence of other alternatives. A service company should actively select its customers. This means that the company has to sometimes discourage or at least not actively reach some customers. This can prove to be difficult for the companies that have always measured success of a service relationship with sales volumes and market share. A non-attractive customer has usually a history of switching between suppliers, lacking of interest of long-term solutions, puts weight on the price in negotiations and is unwilling to discuss needs openly. When the company exceeds the

customer's expectations in delivering the service, the customer feels that he has received superior value and is satisfied with the service. Customer satisfaction enables tightening the relationship leading to stronger feelings of loyalty. The relationship is experienced as a win-win relationship and the service company is able to develop customer-specific information and capabilities that are hard to match by competitors (Day 1999,149-151). Nowadays organizations understand the value of customers and they are moving more and more towards a customer driven organizations where relationships are built up and valued (Lehtinen 2004,16).

Information is the key when talking about CRM as a concept. This includes such obvious elements as the contact information for the customer, but there is so much more that can be utilized; order history of the customer. From this one can predict the customer's future actions or at least you can say how the customer should behave. Budgets are usually done based on this information. The challenge is to meet the set targets.

To be able to work with CRM adequately, technology should be correctly used. SAP system is a good tool for this purpose. SAP as software is briefly explained in chapter 5.

The best outcome of CRM is when a casual customer turns into a loyal one. An important benefit when it comes to CRM is that the cost of acquiring and keeping a customer lowers. When a relationship with a customer is established, it is cheaper to maintain it, rather than trying to fish out new and infrequent contacts. In fact it is five times more expensive to find a new customer than keeping the old ones (Swift 2001, 9).

Through technology, correct customers can be chosen to focus on, since the downside in CRM is that specific customers may be loyal just because of some discounts and that can be harmful in the long run.

In the industrial market this is a challenge since some parts can be bought at low cost from cheap suppliers, or even pirate products are available. When thinking from the customer's perspective, this is not that wise since in a good

co-operative relationship, which is the aim of appropriate CRM, the benefit is mutual and trust is important.

4.2.2 ABC-analysis

ABC-analysis according to the Pareto's rule is probably the most common way to categorize both customers and products (Huiskonen 2001, 126). It divides the customers into strategic, regular and occasional customers. As the resources in a company are limited, this kind of division is a good solution to focus your market potential adequately. This can be used with the help of an ERP system. When the company try to serve all customers equally, a good co-operative relationship is virtually impossible.

When ERP is used properly one can easily categorize the customers with ABC analysis. A valid ABC analysis is possible only if the information in ERP is useable and as the categorization is made based on old information, some trends can be seen from that.

Pareto's rule is often used in ABC analysis. It means that 20% of the customers bring in 80% of the profit. This 20% is representing A-customers and they will receive more attention than C-customers. The sales volume is often divided into 80-15-5% but this is not the standard. CRM supports ABC analysis as the customer representatives can properly focus on A-customers. C-customers are of course also served but with less time consumption. One must remember that when segmentation is made, customers can change in different category and therefore constant updating and following customer transactions must be made.

Andritz (Andritz intranet, 2011) has listed the key factors for segmentation. Figure 7 shows customer segmentations and they are listed in the following.

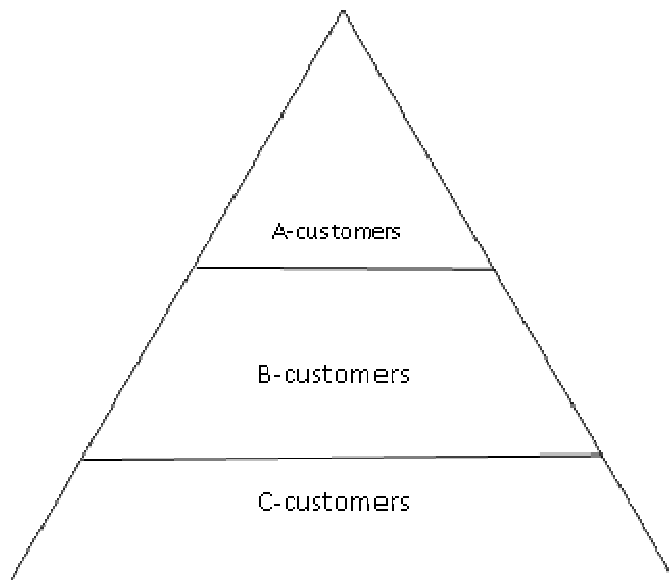


Figure 7 Segmentation of customers.

A-customer; strategic customer

- potential now and in the future
- positive financial status
- higher mill production tonnage
- installed base consists mainly of our technology and equipment
- positive attitude towards improving OPE-parameters (OPE: mutual co-operation project between customer and Andritz to improve customer's overall production efficiency of the mill)
- availability
- performance rate
- quality
- long term business profitability in the customer relationship. Both see that the relationship is in a win-win basis
- close business relationship – information transfer easy
- tends to buy from us

- previous or current Capital Business partner in major size project
- top mill of the corporate

B-customer; regular customer

- buys rather regularly from us, but also from our competitors
- relies on traditional way of purchasing
- more cost driven customer
- moderately profitable customer for Andritz Oy
- keeps a formal distance from Andritz Oy

C-customer; occasional customer

- does not usually buy from us
- totally cost driven
- inactive towards us (evaluate, whether the reason is on us or in the customer's way of functioning)
- has not normally been a profitable customer for us
- takes our technology input to low-cost local service providers.

(Andritz Intranet)

4.3 Customer satisfaction

Business marketing management requires unique analysis apart from the consumer markets. Business market is at the mercy of the demand for consumer products i.e. paper. There is no need for papermaking machines if there is no need for paper. The business is really sensitive for changes in the global markets which could be noticed in the past years. Hopefully we are moving to-

wards better times and it will be showing in the sales figures as well. Customers are more motivated nowadays to finding more cost effective and flexible solutions in their service needs. Business marketing is a very close relationship between seller and buyer. The relationship might be very fragile particularly on the face-to-face level. The company has to be careful when choosing the persons making business on this level since it is so people related. Even if it should not be so, personal relationships are heavily important and may be even more important in some cases than the products or price.

There are several benefits for the company when you have satisfied customers. It is obvious that satisfied customers become loyal and this means more sales for the company. They buy in bigger quantities and often also buy other products and services that are available. Price increase might not be a major factor in their minds. It is cheaper to keep a satisfied customer than try to make new ones. Satisfied customers also attract new customers as they speak of the company positively. This reduces costs in acquiring new customers. When introducing new products, the risk of trial is lower for a satisfied customer (Anderson, Fornell 1994, 55). With satisfied customers come also satisfied employees and this is always a good thing for the company. A customer oriented company listens to their customers as individuals and understands their needs and expectations. Customer orientation has been discussed in chapter 3.4.

5 ERP AND SAP SYSTEM

ERP, or Enterprise Resources Planning system means the technology used in a company for integrating information. It may be that different functions in a company uses different systems for this purpose. SAP is short for Systems, Applications, and Products in Data Processing is an ERP.

SAP, Systems, Applications and Products, was founded in 1972 in Germany by five men and now it is a world leader in ERP systems and has over 176000 clients worldwide. It employs more than 54000 people in over 50 countries (SAP 2011).

5.1 Importance of ERP

An ERP, or in Andritz case SAP, is an important place for customer information. There are five important factors related to customer information (Rope, Pöllänen 1994, 114):

1) Contact information

- name of the company, address, phone- and fax numbers, e-mail

It is vital that this information is up to date.

2) Segmentation information

- company segmentation, person segmentation, persons status in the company; i.e. role in purchasing, customer segmentation

This part includes information that is vital when it comes to targeting the marketing correctly.

3) Purchase behaviour

- purchase history, feedback from customer

4) Info record

- contact history; who has contacted whom and concerning what

The info records importance grows when the size of the seller is bigger. Through this information every can access the needed information and transactions concerning the specific customer.

5) Profitability

- customer profitability, quality of operations, customer satisfaction

Profitability is an addition to the customer information where one can analyse the profitability of a certain customer and measure the salespersons activities. This tool can be used to focus in the right direction.

The following criteria must be filled for the use of an efficient customer database:

a) Accuracy. To achieve this, the source of information must be reliable and the information must be updated regularly.

b) Usability. The information saved in the database should be usable in business sense.

c) Preciseness. Data should be precise and specific. In Andritz this point is not filled since the materials data management has not been properly handled in the roll-out. Spare parts have been sold with various names and multiple materials have been created in the system.

d) Functionality; the information should be easily available. If it is not, the threshold becomes too high to use the information.

e) Economicality; the system should be both easy to use and update. If the ERP needs substantial economic sacrifices when in use, the profit margin reduces.

f) Real time property.; all the information, both customer information and sales information must be updated constantly. This means both daily and early checking.

g) Flexibility. the ERP should be so flexible that only some parts can be changed without needing to change the whole system. When working with the ERP, needs for changes should be done to make the system work for the specific company.

h) Exploitability; everyone should be able to take advantage of the system.

From a properly working customer database analyses can easily be made and improve customer relations. ABC-analysis can be made with the information in ERP.

5.2 SAP system in Andritz

Before SAP, Andritz had several systems, and in Finland alone, two systems were used; Projector and Baan. Globally there were even more. In 2005 SAP was taken into use to gather the whole company under one system which enables information shearing and helps reporting. This proved to be quite difficult due to the vast amount of information. Problems have occurred due to double entries especially in materials management.

Implementing an ERP system may take from a few weeks to years. Andritz had people from the SAP organization to help with the transition. Finland was the first country to move to SAP and other countries followed. The transition is still ongoing.

Andritz uses SAP system which has great potential when it comes to reporting since the information is real-time (Karhkahnis, S. 2011).

From these reports it is possible to get a good overall picture of the spare part and maintenance sales for mills. When you, as a salesman or customer service manager for a specific customer visit the mill, you can look at the transactions to that specific mill and get an overall picture of the situation and be proactive in maintenance.

Other benefits when it comes to SAP is that many Andritz' customers operate also in SAP. This gives an opportunity to work together and access customer's SAP system, with restrictions off course. It could be possible to check e.g. warehouse situation and fill the stock or follow the production of the customer.

5.3 Functional location in SAP

Functional location is the structure of the mill. At the top is the customer and under it are the different mill areas. The mill areas are then divided into differ-

ent processes. In the processes you are able to add the machines used. In the machine info, the equipment number, year and other useful information can be added. Under these machines you can specify the parts needed for that specific machine. The machines are not always the same at every mill since modernisations and alterations can be made for that specific customer depending on the customer's needs. When you have the parts listed in the system, you save time since you do not have to check the part in parts books or check previous sales.

In SAP system the functional location with customer specific spare part lists have serious implications on sales. There is less room for errors which mean more accurate deliveries and it leads to more satisfied customer and there will be no more searching for right spare parts and it means time saving

When time is saved the employees are able to develop their work and possibly get more sales. This might be by the following steps; spare parts can be inventoried mill by mill. The parts should be marked for criticality; some parts breakdown leads to the machine to be shutdown. This can cause serious problems. The parts will also be marked with suggested order amounts for flexible use of the machines. Sales lists can be taken from Andritz' system and then it can be compared what is bought and what is the expected life cycle of parts. All in all, the main objective will be having the correct parts at desired time at the mill.

In Andritz' functional location structure the customer's part numbers can also be added. This will also result in more accurate deliveries since the seller can double check that the parts in order match with Andritz numbers. Andritz could also update customer's system with their SAP material numbers.

There is also a growth potential in addition to Andritz machinery; the company could also list the customer's other machines in their system and then they could be able to sell spare parts also to competitors machinery.

As Andritz started to use SAP-system in 2005, different reports can be made on what has been sold to the customer in the past. Using this as a tool, a plan can be made what the customer might need to purchase. That is thought not

enough. When we know what they should buy, we have to market our products so that we offer a competitive alternative in the fierce spare part market. In forest industry, some parts are specific, which can only be sold by e.g. Andritz, but there are many parts that the customer can buy elsewhere. We have to be able to offer these parts at a reasonable price and maybe add value by the service that we provide. There are also warranties to be taken into consideration.

Also purchasing is a big part of the spare part handling process. If the salesperson is able to sell bigger quantities, the purchaser might be able to make a contract with the supplier and get lower prices and then be able to offer them to all customers at lower prices than maybe themselves get from that supplier.

When making the functional location structure in SAP, first excel lists are required. There is a list where all needed information filled out and the information is then transferred to SAP. This stage is quite time consuming since all the needed information is in spare part books and manuals which are in paper version in Kotka office or in electronic form.

It is not necessary to add all the spare parts are in SAP, such as nuts and bolts. For easing the work of order handling, the most common spare parts are the most useful. Even if the machines might be same at some mills, it might be that there has been made some modernizations which then can mean that some parts are different to a similar machine in another mill. This is the main problem in order handling when you have to double check that you have the correct part for the correct customer.

Spare Part list for Sappi Kirkniemi							
Customer:		Author					
Mill:		Date					
Product:		Delivery terms		FCA Supplier			
		Validity					
Line	Subassembly	Name	Andritz SAP Mat No	Andritz old Mat No	Customer SAP Mat No	Drawing no	Part no
	Imupää	Tiivistelevy, vasen D=1412	131526085	SF202408K1		502364771	
		Tiivisteapala	131526047	SF303499K2		502364742	
		Kompensaattori NS600	131168274	22564		502670594	
		Lautasjousi fe (sinkitty) 71x36x2.5 din 2093	131375335	31816		502695537	
		Tiivistenauha 75IRHD L=4368	131455209	22429		502709664	
	Kokoonpano	Lapa SS2343 + metallihiira HK-kudos NO12/CM langat	201810750	SF202828K1		701551329	
		Sektorin tiiviste PA-FELT	131557281	SF401933K1		502448241	
	Keskiakselin laakerointi	Kantopyörä AD55	131004164	42688			
		Kantokehä AD55	131970132	32754		504973180	
		Tiivisterengas (käyttöpää)	131413082	SF303384K3		501001242	
		Graffitipala 40x75x180	131138581	31632			
		Plus-profiili	131366881	SF207436K3		502383526	
		Ponneprofiili L=5M	131139438	44036			
	Liikkuva kankaanpesupuuri	Laakeri D=90	202362713	SF400411K1		701914319	
		Laakeri D=90					
		Suutin 1/4" Delavan ACM20 65 ast. ulkokierre SS2343	131085516	31524			
	Irrotussuihkuputki	Suutin QP.316SS5040	131503169	32339		502716031	
		Pallonivel B36275-3/8 X QJ316SS	131040723	32723			
		Lapa SS2342+PP-viira	131328192	SF203252K1			
		Sektoripussi 71-1101 PP+HK-ketju	131324917	41603			
		Graffitipala 40x75x180	131170840	41293			

Figure 8 Excel list for gathering information for downloading

In the figure 8, an excel spread sheet where all the needed information is gathered. Any needed and useful information can be added. Here is the sub-assembly, which makes it easier to identify the parts when customer orders. Usually the machines are big and the subassembly limits the amount of spare parts. SAP material number is evidently the most important information. Old material number is also useful since many of the customers have Andritz' old material number in their system. There are several types of old material numbers because of several ERP systems used in the past. The customer's material number can also be added, which enables double-checking in order handling.



Figure 9. Cross-section of a Disc Filter

In figure 9 is a disc filter, which has been used in the pilot project in this thesis. The most important parts for this machine has been added to SAPPI I Finland's functional location structure in SAP. The Disc filter is a big machine and can therefore easily be divided in sections. This makes it easier to identify the parts. In the functional location structure the parts are marked to belong to a certain section.

One main advantage of the functional location structure is when there are spare parts which are made of several materials or items. When the equipment is unfamiliar, it might easily happen that some parts are not ordered for the assemblies and the delivery delays because of some missing parts. This problem is solved when the parts in the functional location are divided in com-

ponents. Such a spare part is for example a disc filter sector which is divided in several parts.

The next step after filling in the excel list is to download the information in SAP. Andritz has instructions for making this kind of plant maintenance BOM (bill of material) in SAP functional location. I will not go into detail in my thesis how this is made. Appendix 1 gives instructions how the parts are downloaded into SAP.

Functional loc.	FI0036	Valid From	18.01.2012
Description	Sappi Finland I Oy (Kirkniemi), Lohja		
FI0036	Sappi Finland I Oy (Kirkniemi), Lohja		
FI0036-090	Wood Processing		
FI0036-090	Stock Preparation		
FI0036-090-010	Pulping		
FI0036-090-020	Refining		
FI0036-090-030	Broke Handling		
FI0036-090-040	Thick Stock Screening		
FI0036-090-050	White Water Handling		
FI0036-090-050-001	PM1 White Water Handling		
FI0036-090-050-001-DCF	PM1 White Water Handling Disc Filter		
FI0036-090-050-002	PM2 White Water Handling		
FI0036-090-050-003	PM3 White Water Handling		
FI0036-090-050-003-DCF	PM3 White Water Handling Disc Filter		
10001146	Disc Filter (AD) ADS5514-L-4-H2	AD5005	AHLSTRÖM MACHINERY SAVONLINNA 1995 ADS5514-L-4-H2
131526095	SEALING PLATE L D1412/D300/S30 LEFT...	1 PC	Suction Head SF202408K1
131526047	SEALING PIECE L	1 PC	Suction Head SF303499K2
131168274	COMPENSATOR NO 315307 DN600 AMC 6005...	2 PC	Suction Head 22564
131375335	DISC SPRING DIN2093 - B -71X36X2.5...	39 PC	Suction Head 31816
131455209	SEALING - 445613 75 IRHD NBR AMC 6...	1 M	Suction Head 22429
131328192	SECTOR AD_55	252 PC	Sector Assembly SF203252K1
131004164	SUPPORT WHEEL MM	2 PC	Central Shaft 42688
131970132	BEARING CIRCLE SANTASALO AD_55 - 38...	1 PC	Central Shaft 32754
131413082	SEAL RING AD_55 DRIVE END D=310	1 PC	Central Shaft SF303384K3
131138581	GRAPHITE PIECE 40X180X225	1 PC	Central Shaft 41293
202362713	BEARING D=90 DISC FILTER CLOTH WASHIN...	1 PC	Oscillating Filter Wash Pipe SF400411K1
131085516	NOZZLE DELAVAN 1/4 ACM20/05 DEGREES...	84 PC	Oscillating Filter Wash Pipe 31524
131503189	SPRAY NOZZLE SPRAYING SYSTEMS QP-31...	28 PC	Cake Discharge Pipe 32339
131040723	FITTING SPRAYING SYSTEMS CO. B36275...	28 PC	Cake Discharge Pipe 32723
FI0036-090-050-003-MIC	PM3 White Water Handling Micra Screen		
FI0036-090-060	PM Approach System		
FI0036-090-070	Filter Recovery System		
FI0036-090-080	UTM Pulpers		

Figure 10. SAPPi Kirkniemi disc filter plant maintenance BOM

In the above figure 10 the parts have been added to SAP. Here is seen that the customer is SAPPi Finland I Oy, the main line is stock preparation, mill area is white water handling and the paper machine is number 3. The disc filter for paper machine 3 is type ADS5514. On the equipment line, you see the year when the machine is made, 1995 and the company was called Ahlström Machinery. Under the machine are the most important spare parts. They are divided into sections; suction head, sector assembly, central shaft, oscillating filter wash pipe and cake discharge pipe. Here is also the amounts for this one machine as well as the old material number. These are the most important and common spare part for this machine.

Ideally when you click the parts, you are able to process the order. It has turned out that this process is not available at the moment but in any case, time is saved when you are able to find the parts in SAP for the specific customer.

6 EVALUATION OF THESIS, METHODOLOGY AND PROCESS

When SAP came to use in Anditz in 2005, I was a key user, i.e. I was teaching my colleagues to use SAP. From the start I found functional location to be important. The thesis created a good way for me to prove myself and everybody else that functional location is significant and can reduce both time and errors in spare part business. Sales have also been interesting to me and it was fascinating to investigate different sales techniques.

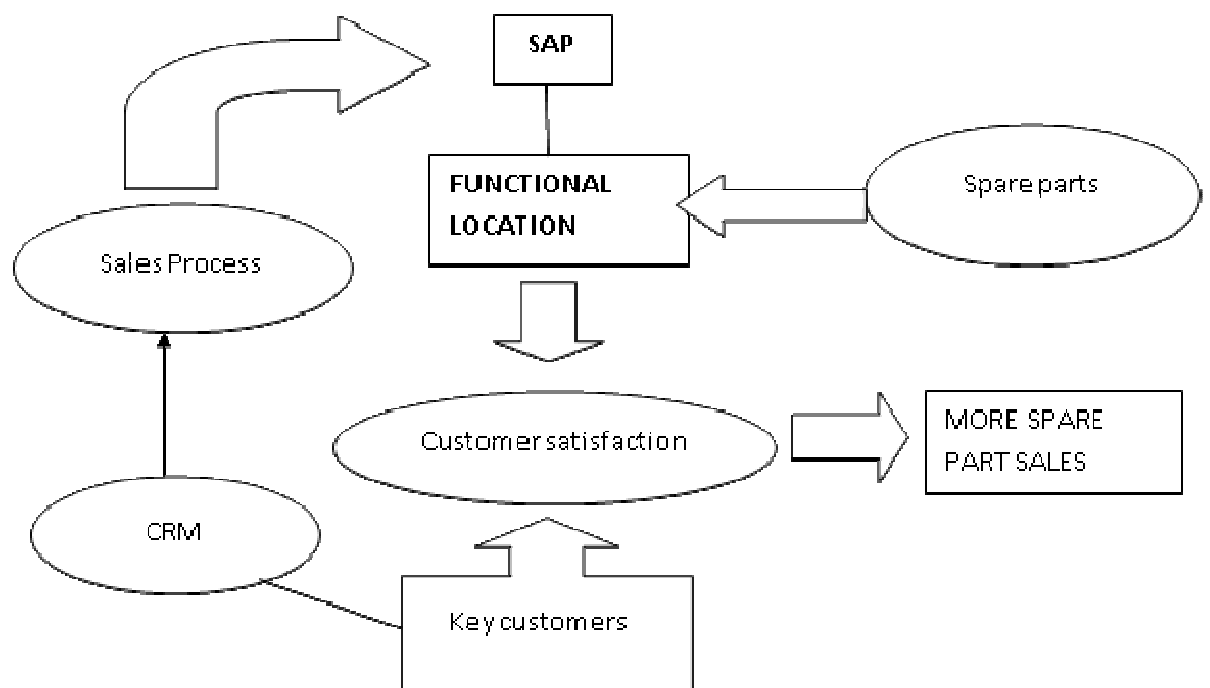


Figure 11 The relations between empirical and theoretical aspects of the thesis.

Figure 11 illustrates how the theory is linked into empiric part of the thesis. The end result of this development project is customer satisfaction. This on the other may result to more spare part sales.

A properly functioning ERP system enables customers to be served more effectively and quickly. Technical knowledge is not required in the order handling process as much as it is today. I hope this work is eye-opening in Andritz and it has further implication on customer information.

7 EVALUATION OF THE IMPLICATIONS OF THE DPT AND SUGGESTIONS FOR FUTURE ACTIONS

In a fast moving business you have to mould your processes to be so flexible that the everyday business does work fluently. Errors are minimized and less time has to be used to solve simple issues such as spare parts. When the needed information is available the spare part process itself is fluent.

My objective in this project was to create a simple way of handling spare parts and giving the sales force a tool that they can utilise in their daily work. When some time is spent on this process on each customer, if not all, at least the most important, the spare part sales in the future will ease. This is customer service at its best. Collaboration creates a desired outcome for both customer and supplier. Mutual respect and understanding is everybody's goal.

The implications of the thesis cannot yet be seen in Andritz as only one machine's spare parts has been added to SAP, but much interest has been shown for the functional location structure. After presenting this study, actions were taken to take this project forward and add also other equipment's spare parts to SAP. This will be of big help in the future especially when new people start to work for Andritz. Even though old manuals remain, the basic information is available in an easy form in SAP.

When thinking about the future, ABC analysis could be made on the parts. Possibilities of handling the customer's warehouse by Andritz could be taken under a closer look. Spare part packages are also an issue that has been talked about for some time. All of these actions result to the fact that the customer can trust that their machinery will work and maintenance is made on a regular basis.

Also Total cost of ownership could be looked at and reflected that on the supply chain. Everybody is always looking for lower costs and this could be one possibility to achieve that.

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