Analysis of internal communication
Case study Sandvik SMT Market Service

Senad Kovac and Mikael Holmgren

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Preface

First of all we would like to thank Sandvik Material Technology (SMT) and SBMS (Market Service) for giving us the opportunity to perform such an interesting and rewarding examination paper.

Special thanks to Jonas Hofvenstam, our mentor at Sandvik, for being supportive and for showing great commitment during this period. We would also like to thank the steering group for contributing with important information and helping us reach our goal.

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Mikael Holmgren  Senad Kovac
Abstract

Large scale companies have massive information flows in their administrative departments. This often creates problems when there is a lack of communication both internally and with internal partners such as sales units.

Sandvik SMT Market Service (SBMS) is no exception in this case. They got big problems with their communication with the sales units especially when it concerns the mail traffic and routing of information. Today SBMS have three regional mailboxes where the SU’s (Sales Unit) send their mails depending on which region they belong to. This structure does not function as intended and creates an overload which leads to long response times.

Therefore the market service manager Jonas Hofvenstam wanted us to investigate this problem area with the possibility of segmenting the mailboxes including a tagging system and to perform a review of the sales tools portal in order to shorten the response times and decrease the mail traffic.

The outcome of this paper was suggestions/proposals regarding how to structure the common mailboxes, illustration of a tagging system for the mails and suggestions of how to improve the sales tools portal. We also made recommendations on how to take these suggestions into action including step by step instructions to make it easier when performing an implementation.
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1 Introduction

This examination paper is the final phase of our education at the economic engineer program, University of Gävle. The project encloses 15 hp at C-level which means that we are going to perform an immersive study of a chosen area, in our case information logistics, to be able to create a strategy for a problem. In this project a case study has been performed at Sandvik Materials Technology, Strip market service.

1.1 Background

In an ever more complicated world the information has a significant role. The information supply continues to grow generally and it becomes important to create a user friendly and effective information system to handle this challenge. Due to the new technology available in information systems more and more companies has started to use Internet and Intranets as a helping tool (Strid, 1999). In the past the information was paper based, centralized and isolated, but nowadays it has become more open, digital, network based and decentralized (Ødegaard, 1996).

Today a well working internal communication is a pre-requisite for an organization to be able to effectively compete on the market. According to Strid (1999) a key-factor is the “we” thinking, understanding of the goals and visions and finally a company should give they cooperators clear insight in the organization.

Based upon this fact we thought that it would be very interesting and rewarding to investigate further in this area. We were fortune enough to get the opportunity to make a case study at Sandvik Materials Technology, Market Service.

The problem that market service has currently is the long response time in their communication with the Sales Units. The biggest part of the communication runs through three common mailboxes which are geographically divided. With the current organization at market service the mailboxes are heavily overloaded and the lead time is sometimes up to seven days. This makes Market Service (SBMS) into a bottleneck for information that should be handled by people outside of Market Service. SBMS act as a switchboard, serving other functions with information. If a person at SBMS is away it directly affects response time in a negative way.
The market organization does not have an overview of the service that SBMS provide each segment and key customer. Information is sorted by geographical area rather than by segment. This makes it difficult to have an overview in three mailboxes (Europe, Asia, Americas). It also causes unclear responsibilities and ownership of the daily mail communication with the SU’s.

Another problem is that all categories of questions must be handled today in the three common mailboxes.

The long time creates a negative spiral of extra work when people at the SU start to send reminders and call different people at the PU (Product Unit).

The sales portal at SBMS is currently poorly updated and there are no resources for maintenance and development of the sales tools portal. Another problem with the sales portal is that the SU’s don’t have enough knowledge to find information on their own.

Wire (a product area within SMT) has done the segmentation of the mailboxes which have enabled a smoother information flow. They also have a better sales portal than market service which makes it easier to access information for the SU’s.

### 1.2 Purpose

The purpose of this examination paper is to analyze the important factors regarding the improvement of internal communication in a large scale company. In this project a case study is going to be performed at Sandvik SBMS.

The project group will investigate and map the internal information flows both internally at SBMS and also between the Product Unit (PU) and the Sales Unit (SU) to create a strategy in order to decrease the daily operative information flow. As a reference the group will perform a benchmark at SMT Wire who has successfully segmented their mailboxes.

### 1.3 Problem formulation

As mentioned above SBMS have a number of problems in both their internal communication and with the SU’s. Today there is an overload in the daily information
flow. One of the root causes to the information overload is that the SU’s are not empowered enough to take operative decisions. This means that people at the SU’s often ask the PU questions because they don’t have knowledge about were to find information on the intranet and other systems such as the sales tools portal. In some cases people at the SU’s don’t even have access to those systems. There are also new employees at the SU’s that ask the PU instead of their more experienced colleagues. This translates into a lot of unnecessary mails in the common mailboxes at SBMS. People at the SU’s fail to understand the consequences of their behavior and how it affects the delivery precision in a negative way.

Another root cause to the information overload is that the SU’s do not rely on the answers that the PU’s give to them. Because of the lack of trust based on earlier experiences the SU’s often ask the PU to confirm deliveries and things that the PU already have communicated once. If the SU’s don’t get an answer they contact the people at the PU’s on their personal mailboxes or by phone to get an immediate answer. This results in an increased workload that easily can be avoided.

If the SU’s ask questions to the planners about a certain delivery time and are not satisfied with the answer they ask them again for a new answer with a better delivery time. This depends on the pressures from the customer. If the planners can’t give them the answer they want, they contact another person at the PU such as a Product Specialist or a GPM (Global Product Manager). The Product Specialist or the GPM have better knowledge about the product and also have the authority to prioritize the production. In some cases the Product Specialist or the GPM give a promise of a shorter lead time. This leads to a problem for the planning as they need to reschedule the production. It also results in that the SU’s take advantage of this situation because they know that they can influence the lead time. This creates a negative spiral that prevents the PU in their effort to do a good job.

The third root cause is the way information flow between the PU and the SU. Today all mails from the SU’s are sent to three common mailboxes at the SBMS depending on which geographical area they belong (Europe, Asia and Americas). This results in unnecessary routing of the mails by SBMS to the different departments (planning, Product Specialist, GPM etc.). It also leads to long lead times because SBMS don’t have enough resources to answer the mails in time. Another effect of the existing structure is that there is no overview of the mails which results in long handling time before the mails can be routed forward. The mails in the mailboxes are not prioritized by customer
classification (A,B,C) which can lead to that the mails from the A-customers can’t be prioritized and answered in time.

The last root cause is that there are no resources available today for the maintenance and updating of the sales tools portal. The responsibility of those functions today lies on Andy McCullock, Marketing manager, but he has not the time to take care of this. A few years ago there was a team that was responsible for those functions but they no longer exist following a restructuring at the SBMS. This affects the SU’s in term of that they don’t use the sales tools portal as intended.

1.4 **Objectives**

1.4.1 Short term

- Response time < 24 hours
- Better service to end-customers
- Better overview for the market organization of the service we provide each segment
- Enable faster response for more people to act to support the SU’s

1.4.2 Long term

- Better understanding of the information needs at the SU’s for each segment
- Customized tools and training to help people at the SU take their own decisions
- Decrease mail traffic between PU and SU
- Better follow up on our service
- Develop trust between PU and SU

1.5 **Limitations**

The timeframe for this examination paper is 10 weeks which translates into 15 college points in the Bologna system.

The resources for this project are the project group containing Mikael Holmgren and Senad Kovac. The project also got a steering group containing Jessica, Andy, Pontus, Jonas from SBMS and our mentor Göte Olsson from HIG.
1.6 Disposition

This examination paper is structured as following:

- **Chapter 1 Introduction** – This chapter gives a background to the project, purpose of the project, a problem formulation, the short and long term objectives for the project in general and finally the limitations that the project had.

- **Chapter 2 Theoretical Framework** – In this chapter we have interpreted and summarized the relevant theory used to be able to solve the problem. In our theoretical framework we attend logistics in general including flows and flow charts and the definition and use of supply chain management in organizations. This section also regards information systems in general, the term visibility and how it affects the supply chain. The last section regards communication including internal communication, internal channels and the Intranet.

- **Chapter 3 Method** – This chapter describes how we proceeded through the different steps of the project. The concepts reliability and validity is discussed. It also contains a critical review of the methods we have used.

- **Chapter 4 Company description** - Here we give a description of Sandvik AB, the unit Sandvik Materials Technology and Market service (the division where we performed the project). We also bring up the history of the company with some interesting dates in Sandvik’s history.

- **Chapter 5 Description of the situation today** – Under this chapter the situation at Market Service and the Sales Unit is described. The communication between those two parts is also described including the problem areas.

- **Chapter 6 Analysis/Improvements** – In this chapter we analyze the current problems and also the results from the interviews. Based on these analyses we suggest some new improvements and minor changes to the existing tools. We also illustrate this by a couple of figures.

- **Chapter 7 Recommendations** – As the title implies this chapter concerns our recommendations to SBMS regarding the strategy for implementation of our solutions.

- **Chapter 8 Conclusions** – Here we conclude the project as a whole including suggestions for future studies.

- **Chapter 9 Project evaluation** – In this chapter we evaluate the project concerning both positive and negative experiences but also what we could have done better.
2 Theoretical framework

This chapter contains the theoretical framework for our examination paper.

2.1 Logistics in general

Logistics is basically defined by Christopher (2005) as “the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such way that current and future profitability are maximized through the cost-effective fulfillment of orders”.

The council of supply chain management professionals (CSCMP) considers that Logistics management is that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers’ requirements.

2.2 Information flows

Mapping of the information flow can be made in several ways but often it is enough to use some basic methods. According to Aronsson (2003) the most common symbols used when mapping information flows are the following:

![Symbols used when mapping information flows]

*Figure 1. Symbols used when mapping information flows*

2.2.1 Process flowchart

Process flowchart is a method that is used to document activities within a process. The charts should in an easy, clear, compact and graphical way show the process and also make it easier to notice potential process improvements. The expression “a picture says
more than a thousand words” suits this subject very well and is the reason that it is preferred to use charts and tables (Olhager 2000).

According to Olhager (2000) there are some basic steps to make a process flowchart:

1. Identify and categorize process activities
2. Document the whole process and don’t miss anything
3. Analyze the process and identify possible improvements
4. Recommend proper improvements or changes
5. Carry out the decided changes

Olhager (2000) also says that these kind of charts are possible to use to:

- Ease the understanding of processes or flows and creates a mutual picture
- Create a starting-point for improvement/change of processes
- Shows often unexpected problems, unclarity, double work, critical situations/areas, hold ups and bottlenecks that can be reviewed closer
- Give a better foundation for the dissemination of information between different groups and different shift of work, which increases the chance of preventing mistakes
- Clarifies different roles in a process for different functions and persons

2.2.2 Value stream mapping

This concept is a mapping activity that visually represents the processes (work units and information required) to meet a customer demand. The important aspect of value stream mapping is to obtain a high level visual representation of the value stream selected (Kremer, 2005).

Value stream mapping is of two types: current and future state. Current state maps give a visual representation of the current way information and workflow is occurring for the targeted value stream – along with identifying potential areas of waste. The future state map utilizes Lean tools to create a visual roadmap that displays how to eliminate the waste identified in the current state map (Ibid).

The benefits of value stream mapping are (Ibid):

- Creates a common vision for everyone connected to the targeted value stream, of both current and future states.
- Provides a visual map for ease of communications
- Allows waste to be seen by everyone so improvements can be focused
- Provides the foundation on which to base lean initiatives from the customer perspective
- Identifies and assists in the elimination of wastes

The overall goal of creating a value stream map is however to enable clear identification where waste lies and to obtain an accurate portrayal of current work conditions (Ibid).

The differences between Value Stream Mapping and Process Mapping are described below with an illustration:

Figure 2. Comparison between value stream mapping and process mapping (Kremer, 2005)

The symbols used for current state mapping are:
C/T  Cycle time  
C/O  Changeover time  

Inventory

Truck shipment

External sources (suppliers, customers, etc.)

Electronic information flow

Movement of production material

Supermarket (a controlled inventory of parts)

Withdrawal (pull of materials, usually from a supermarket)

Production kanban (card or device that signals to a process how many of what to produce)

Signal kanban (shows when a batch of parts is needed)

Kaizen startburst (identifies improvement needs)

Dedicated Process Box - the main process or area where value-added and/or non-value added work occur (order processing, order quoting, title search, customer credit history, sub-contractors agreements etc.).

Shared Process Box - where multiple value streams all inter-relate (Mail Rooms, Human Resources, Banks, etc.).

Attribute Area - features, characteristics of the process (cycle times of individual tasks within the process, number of workers within the process(es), internal defects, etc.).
Figure 3. Current state mapping symbols

- **Plane Shipment** - denotes the physical arrival or departure of work related to the value stream.
- **Inventory/Queue Time** - Queue Time is the amount of time work or information resides between two processes.
- **Database Interaction** - computer interaction (EDI, E-commerce, E-mail, WEB).
- **Mail** - the arrival or sending of metered mail.
- **Folder** - a single unit of work.
- **Folders** - multiple units of work group through a common process.
- **Exceptions or disruptions** - any major obstacle that prevents flow from occurring throughout the value stream.
- **Go-see Scheduling** - the physical viewing and collecting of information to the various processes within the value stream to determine work loads.
- **Worker** - the worker(s) assigned to the particular process.
2.3 Supply Chain Management (SCM)

Christopher (2005) defines supply chain management as “the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole”. The important thing in this definition is to look at the whole, both upstream and downstream instead of just between your own four walls. Your own company may function well but if there are problems somewhere else in the supply chain this will affect how the end customer experiences the end product regarding price and value.

The definition by Gregory M Magnan (2002) is “the effort involved in producing and delivering a final product from the supplier’s supplier to the customer’s customer”. The focus is upon the management of relationships in order to achieve a more profitable outcome for all parts of the chain. This brings with it some significant challenges since there may be occasions when the narrow self interest of one party has to be subsumed for the benefit of the chain as a whole (Christopher, 2005).

SCM includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies (council of supply chain management professionals).

2.3.1 Information systems

In today’s ever more competitive business world the importance of a good information system is significant. In a supply chain the information system initiate activities and track information regarding processes, facilitate information sharing both within the firm and between supply chain partners, and assist in management decision making according to Bowersox et al. (2007).

He also states that supply chain information systems (SCIS) are the thread that links logistics activities into an integrated process. The integration builds on four levels of functionality: (1) transaction systems, (2) management control, (3) decision analysis, and (4) strategic planning.
A comprehensive SCIS initiates, monitors, assists in decision making and reports on activities required to complete logistics operations and planning. The major system components are: (1) Enterprise Resource Planning (ERP) or legacy systems, (2) communication systems, (3) execution systems, and (4) planning systems according to Bowersox et al. (2007).

Christopher (2005) argues that increasingly, it seems that successful companies have one thing in common – their use of information and information technology to improve customer responsiveness. He also mentions that information has always been central to efficient management of logistics but now, enabled by technology, it is providing the driving force competitive logistics strategy.

2.3.2 Visibility

Today many supply chains suffer from limited visibility which often origins from poor communication and failing structure in the organisations. In more detail this means that a particular entity in the network is not aware of the status of upstream and downstream operations in terms of flow of information according to Christopher (2005).

This creates a high level of uncertainty and many misunderstandings such as late information for the customers when orders are delayed. This leads to problems for the customers because they in turn are going to be late with their deliveries. Christopher
(2005) argues that in some cases it can be weeks before problems become visible, by which time it may be too late to take effective action.

One tool that could greatly improve the visibility across complex global supply chains is supply chain event management (SCEM). The concept of SCEM is a process of monitoring the planned sequence of activities along a supply chain and the subsequent reporting of any divergence from that plan. This tool hereby enables organizations to gain visibility upstream and downstream of their own operations and to assume an active rather than passive approach to supply chain risk according to Christopher (2005).

![Figure 5. The evolution from static visibility to SCEM](image)

The challenge for the companies in this case is the need to engender a greater willingness amongst supply chain entities to share information with each other, even if that information may not always be good news according to Christopher (2005).

### 2.4 Communication

To communicate is not as easy as it may seem. A message that is sent out to several recipients can be intercepted in several different ways, if it is intercepted at all to start with. Information or a message rarely goes straight as a pin from the transmitter to the recipient with the effect intended. This especially applies within or to a larger group of people (Fiske, 1998).

Within communication theory we speak of two different schools, the process and the semiotic. The process school concentrates upon the transmittal of messages and how the transmitter and recipient encode and decode these. It also focuses upon how different channels for message transfer are used. This school mainly regards actions of communication. The semiotic school regards communication concerning how messages
and texts create meaning in our culture. The focus lies on the functions of communication (Fiske, 1998).

Perception is the expression used for the decoding and interpretation of a message. Selective perception is the term used to describe that people tend to interest mainly for their own needs and interests which leads to that different people can interpret the same message in several different ways (Severin, Tankard, 1997).

Communication usually is accounted by different models that display the way of the message from the transmitter to the recipient. Several models exist since scientists look at how the communication process works in different ways. The models should not however be watched as something complete, since they are often just a rough simplification of reality (Palm, Windahl, 1989).

The “basic model” (Ibid) is illustrated below:

![Figure 6. Basic model of communication](image)

The model displays the way from the transmitter that via a medium (channel) sends a message to the recipient. The message has certain effects on the recipient that reacts to this by giving feedback to the transmitter. The model is however not always this simple and often the term noise is being added to it. The noise represents everything that disturbs the receiving of the message (Ibid).

To apply this model in an organization and its internal communication an example could be that the management or the information department is the transmitter, the channels are the staff magazine, Intranet, oral meetings etc. and the employees are the recipients that can give feedback. The message is however not always received as wished for. Only because the information has been sent out it is not sure that the message has been received by the target group and most of all it is not sure that they have understood the message in the right way (Ibid).
The linear models (like the one above) in a large scale pervade today’s planned communication, partly by practical and economic reasons but also of tradition. This in spite that the knowledge that exists today reveals the weaknesses and limits of these models (Larsson, 2001). Two more advanced types of models are the interaction and network models and the news model.

The traditional linear model has been complemented in the interaction and network models with a vision of a horizontal and more qualitative contact between groups. The models build upon the thought that people interact socially to reach a deeper contact in their communication. One of these models is the so called convergence model which focuses on the strive of the participants to reach a mutual understanding (Ibid).

Communication systems facilitate information flow across the supply chain. Figure 7 illustrates the major communication components required for supply chain operations according to Bowersox et al. (2007).

![Figure 7. Integrated modules in a SCIS](image)

Bowersox et al. (2007) argue that logistics information consists of real-time data on company operations and inbound material, production, inventory, customer shipment, and new customer orders. He also mentions that from a supply chain perspective, firms need to make order, shipment, and billing information available to suppliers, financial institutions, carriers and customers.
2.4.1 Internal communication

The importance of internal communication has grown rapidly over the last decades. During the end of the 60’s there was a large growth in the Swedish labour market. This resulted in an increasing gap between the management and the rest of the employees which lead to a disturbance in the workplaces and that rumours were spreading. After investigations the consequence was that companies invested a lot in internal communication and information during the beginning of the 70’s. Still today the internal communication is a primary part of the work at the information department of a company (Larsson, Rosengren, 1995).

Today many factors contribute to the constant increasing need of information. Information is needed for the influence on decisions; the self determination in the job, the demand of knowledge has increased among the employees and the organizational forms with delegation and decentralization demand information (Strid, 1999).

Internal communication is often mentioned in the literature as a competitive advantage and as follows an important resource for a company.

Strid (1999) argues that internal communication has three main functions from the transmitter’s point of view: to inform, to create participation and commitment and to foster the external contacts.

Larsson (2001) develops this argument further by specifying four forms of internal communication activity. These four are:

- **Work** – the communication that is needed for the employees to be able to perform their daily duties
- **News and current situation** – information about the current situation must always be available both concerning internal and external events that can have an impact on the organization
- **Control and change** – information about objectives, plans, guidelines and economic development. This form of internal communication also concern plans of modifications like for example restructuring
- **Value and culture** – the communication that concerns the attitudes of the organization, ethics and the stance on corporate responsibility and environmental issues

The model below (Erikson, 1998) describes how internal communication affects the individual in an organization.
2.4.2 Internal channels

Mainly there are three channels that the company can use for spreading information. These are: Written, oral and electronic (Eriksson, 1998).

Written channels regards printed information on paper or other materials. For example this can be presentations, staff magazines, news letters, reports etc. The advantages with these channels are that the reader can go back to the information again if he/she has forgotten something and that they can reach the receiver in several different places. If the material is written correct the risk for misinterpretation also decreases. On the other hand these channels reduce the possibilities for either-way communication and dialogue. These facts make these channels best suited for presentation of facts and documentation but on the contrary not in the purpose of fostering two way communication (Ibid).

Oral channels are a fundamental prerequisite for the continuous development at a workplace because of the oral contacts. Examples of these are planned of informal meetings, conferences, educations, seminars etc. The oral dialogue has clear advantages since it deal with direct contact and has great possibilities for exchange of ideas. Also everyone’s opinion can be heard and everyone can ask questions (Ibid).

Electronic channels are for example e-mail, Intranet, video conference, intern-TV, cd-rom, databases, video, radio, movie etc. The channels among these which enable dialogue are called interactive mediums. The important factors regarding these channels are that the responsible people must have enough knowledge concerning the technical aspects and that the channels have to be integrated with the other channels in an appropriate way (Ibid).

1. Improved communication
2. Increased insight/motivation
3. Greater will to learn/develop
4. Increased knowledge
5. Greater ability to solve problems and to get a comprehensive view

(Middle). The individual in the development
The advantages with several of these channels are that they with sound and picture combined vitalize the facts and can explain complicated relations. These channels are often being watched in groups and can thus invite to discussions which is rewarding for the organization. Another advantage is the speed of these channels. The updating of the Intranet, sending of e-mails and fax are very fast and furthermore you can reach the specific intended receiver of the information immediately (Ibid).

The disadvantages of some of these channels are that they demand a certain type of equipment and that a larger amount of information is not suitable to distribute by computer since it is inconvenient to read on a screen. To distribute videos and sound cassettes to the employees is also very expensive (Ibid).

2.4.3 Intranet

Within the business, Intranets are in place that enables information to be shared between for example stores and to facilitate communication across the business according to Christopher (2005).

The definition of an Intranet is as follows according to (Bark, 1997) “a TCP/IP-based company network with a uniform user interface, independent of computer platform and server environment, adapted for strengthening and developing the internal information/communication, facilitate the availability and exchange of knowledge/data within the organisation and to serve as an interactive working tool to support processes and the work situation”.

The Intranet is as follows a local company network that the employees in an organization have access to. In other words the Intranet is the companies own Internet on the existing Internet that only some people have access to.

“How a company appears at the market doesn’t depend on what the CEO thinks. It depends on how the individual employees act towards customers, partners etc. It is their competence and how well they can communicate with each other that decide how well they can communicate outwards, and thereby how the company acts on the market. The more effectively they can communicate, all the more effectively they can act” (Hjelm, 1996).
Hills (1997) argue that the demands on the companies have grown due to the increasing competition on the global market. Changes occur often and quick and the customers want everything fast and cheap but still with better quality. This result in that companies must invest a lot to cope with the demands of the market. The link between the demands that are put on the companies is the need to use technology to be able to communicate in a better way within the organization as well as in the market and with partners. Within the organization the Intranet will work effectively and save both time and money by improving the internal communication and through the ability to constantly update the information. It also becomes easier to share experiences, expertise knowledge and to use the creativity and innovation of the employees (Ibid).

Since the information is available on the Intranet everyone in the organization can access this updated information at the same time. The Intranet is gradually becoming the primary arena to distribute information internally. To quickly be able to reach relevant information is a prerequisite in the effort of the employees to be able to make fast decisions, be effective and service minded and therefore become an important competitive weapon for the company (Ibid). Also the employees need to have knowledge about the company’s customers, knowledge, competence, products and services in order to be able to compete at the market (Bark, 1997).

Due to the Intranet the information management in a company becomes more flexible and this can be used to maximize the resources that exist in the company which in turn lead to that the company can reach it’s objectives faster (Ødegaard, 1997). If the company’s Intranet is used to obtain knowledge a strategic advantage is created for the company (Hjelm, 1996).

The content of the Intranet varies a lot between different companies. Some choose to offer search engines to make more information available while some choose to limit the information that is available. To allow communication between the users the company can create discussion groups or news groups. The most important function of the Intranet is however that the information available is up to date and requested by the users. The content is not worth anything if it is not structured in such a way that the information can be accessed in a logical way (Bark, 1997).

Continuous updating of the content of the Intranet is important. Otherwise the users will hesitate whether the information is correct or not. This hesitation will make the users
search elsewhere to control the information. Then the whole idea with the Intranet as a flexible and correct tool for information management has vanished (Ibid)

Bark, 1997 argue that especially the Intranet is an information broker that unifies people and promote a dialog between them. He also mentions that the Intranet should simplify getting in touch with other people in the organization that possesses knowledge and experience.

![Figure 9. Internet applications and the supply chain (Source: A.T Kearney)](image)

### 2.5 Rationalization

#### 2.5.1 Internal communication processes

To be able to reach out with information effectively in an organization the demands are that you have to use the different available channels in the best way possible. The organization need to create linkages between the different internal channels in order to create a combination of oral, written and electronic mediums to be able to attain the best effect possible concerning the interest of the management and the employees (Erikson, 1998).

Internal information is described in four simple words by Göran Orre (referred in Larsson, Rosengren, 1995). He argues that internal information should be:
• Open
• Fast
• Objective
• Honest

The definition of the information being open is that you should strive to give the complete picture as close to possible. The organization benefits from the fact that the employees have knowledge about what and why. To keep competitors on a distance certain information should be kept secret, but in the long run the organization will benefit if they share this information with the employees. The one that transmit information first handedly always has an advantage, that’s the idea with the fast speed. This can otherwise lead to problems such as rumors spreading which can confuse the adequate information (Ibid).

That the information is objective is a given for a continued trust in the organization and outwards towards customers, suppliers etc. Credibility is an essential part to reach the recipients concerning the information. Honesty is also a part of the credibility and means that the recipients must be able to trust that the transmitter has a honest intent and is not trying to manipulate them (Ibid).
3 Method

*In this chapter we describe the different methods and approaches that we used during this project to solve the problem.*

3.1 Theoretical model

In this project we have used a slightly different kind of approach than the traditional one to solve the problem. The traditional approach is to study theory, map the flows, analyze this and then develop solutions to the problems. The big difference is that we developed a couple of proposals for solutions to the existing problems. Based on this we performed the interviews by presenting our different proposals to the interviewees and letting them give us their opinions. By doing this we collected some interesting inputs that we could develop further to come up with the solution that was best fitted for all parties.

This model was recommended to us by our mentor Jonas Hofvenstam since he has been using it when working with different projects as a navigator at Sandvik.

3.2 Literature study

In order to get familiar with the project and the theoretical background we needed to collect and study relevant theory. We had a wide range of knowledge about logistics from all the previous courses but in the area of communication we needed to deepen our knowledge in order to understand the problem of the project.

To collect relevant information we have studied literature, science papers and examination papers. These different information sources have been interpreted and summarized into our theoretical framework.

Some of the science papers have been recommended by the logistics teacher Stefan Eriksson at the University of Gävle. He also mentioned some databases that we could use to search for further information. The main part of the literature has been collected from the university library. The remaining part has been found in databases such as Google scholar.
The literary study took us about four weeks to finish. We started writing it almost immediately after we got the assignment and finished in week 20.

### 3.3 Mapping

Since Senad Kovac has been working at Market Service for two summers, he was already familiar with the flows of information. Based on this knowledge we created flow charts regarding the different parts of the information flow. To get some inside information and to confirm that our flow charts were correct we talked to the employees at Market Service.

The method we used to map the current information flow at SBMS was value stream mapping. You can read more about this method in the theoretical framework. We mapped several flows such as inquiry to offer at the sales unit, inquiry to offer at the PU, order to order acknowledgement at the SU’s respective the PU. The program that was used for this was Microsoft Visio 2003.

### 3.4 Interviews

In order to prepare ourselves for the interviews we created several interview formularies adapted to the individuals being interviewed. The questions were created in a way that we did not want to get a yes or no but rather to get a discussion going about the questions. To get a wide perspective of the situation we chose to interview as many different divisions as possible within the PU and for the benchmarking, the customer service manager from SMT Wire. We started every interview with asking what they do and later showing them our solutions to get a discussion going.

We interviewed 3 product specialists, 1 GPM, 2 Planners, the communication manager, a few of the people from Market Service and finally the customer service manager from SMT Wire. This took us about 8-10 hours to complete and a few hours to document. During the interviews Senad was the one doing most of the talking and Mikael was writing notes on his computer. In this way we got almost everything written down and at the same time a good discussion about the questions.

Finally we are very satisfied with the results of the interviews since we got a lot of important input on our solutions, both positive and negative and also a few new ideas.
came to us during the discussions. The picture we had about the situation before the interviews changed pretty much after the interviews were done. This was an important factor that we had a lot of use of in the analysis chapter.

### 3.5 Analysis/improvements

To analyze the results from the interviews we took all the pros and cons in consideration as we developed the solutions further. We also analyzed the flow charts to find the optimal way of handling the information. After the analysis was done we presented the solutions once again to both of our mentors Jonas Hofvenstam and Göte Olsson to get inputs of the finished solutions. Since we interviewed the Customer Service Manager at the product area Wire as late as the 2\textsuperscript{nd} of June he could take part of the finished proposals and give us his opinion on them.

### 3.6 Validity

Validity is about using right things at the right moment. To better understand the meaning of validity you can as an example compare a credit card with a bus card. They are valid in some situations but not in others. You can use the bus card on a bus but not in a taxi. Sometimes there is also a date when the card expires. Within science, validity is about being able to specify in what situation and for which population the results are valid (Malterud K, 1998).

As mentioned earlier in this chapter we have studied literature, science papers and examination papers. All this in order to be able to find information necessary to help us in our process of mapping and analyzing the internal communication and finally suggesting improvements that will make the communication flow more effective. We also had to consider that we needed to write an examination paper that needs to have a certain structure.

Major parts of the information that we studied had relevance to our project which made it easier for us to progress in our work with the project. We did not need to ratiocinate on our own from the information. With this said we did not encounter any difficulties during the literature study. Considering this the validity was very high.

The objective of this project was to analyze the internal communication flows, focusing on the mail traffic between the Product Units and the Sales Units, the possibility of
tagging mails and an evaluation of the sales tool portal. We think that we have used the right measures to reach the objectives that were agreed upon at the start of the project.

### 3.7 Reliability

Reliability is about the dependability or trustiness. Can you trust a car mechanic that repairs our car? What can occur if the car mechanic is not dependable? What kind of decisions can be made based upon measurements that we can’t trust? (Malterud K, 1998). These are some of the questions that pop up when reliability is concerned.

When it comes to the reliability of the material that we have studied, same information can be found in several different sources which imply that the information most certainly is correct. In the other examination papers that were studied there were a lot of sources that can be controlled so that you can be certain that the information is correct. Several of the examination papers and articles had the same original source which raises the reliability.

Internet as a source was not used because of its low trustworthiness. There is a lot of material on the Internet without any sources and therefore we choose not to include this in our examination paper. Internet was only used as an encyclopedia to look up terms and words we did not understand from the literature.

When it comes to the reliability on the interviews it was experienced as trustworthy and reliable because we performed every interview with the people at the PU’s in direct contact and not by telephone or by e-mail. Regarding the collection of the opinions from the people at the SU’s this was impossible since they are located abroad. Therefore we choose to let them answer on a questionnaire about what their opinion was on our solutions and also how they experience the situation today.

The generalization in the reliability is that companies in similar situations can use our strategy to structure their own mailboxes based upon segments, including the solution of tagging the mails. Regarding the sales tool portal our evaluation and improvements can be applied to other product areas within the Sandvik concern.
3.8 **Critical review of method**

In the literary study we have not used sources from the Internet because we did not think that they were reliable enough. This may have resulted in that we missed out on some important theory but we think that our theoretical framework is covering every part of our area anyway. We have tried to diversify between different kind of sources such as literature, articles and science papers in order to get information from different point of views.

One small setback that our project has suffered from is that we could not start with the interviews in the predetermined time because our mentor was away on a business trip. This caused us a delay of one week but during that period we wrote on the report so it was not a complete waste of time. This factor may have affected the result of the project a bit because we had to stress a little bit to finish the report on time for the deadline.
4 Company description

This chapter describes the company Sandvik AB in general but also the business area Sandvik Materials Technology and finally our case study department SMT Strip Market Service.

4.1 Sandvik AB

Sandvik is a high-technology engineering group, with advanced products and world-leading positions in selected niches. Operations comprise the Tooling, Mining and Construction, and the Materials Technology business areas. The Group has 47,000 employees, representation in 130 countries, with annual sales of approximately SEK 86 billion.

Since its founding in Sandviken in Sweden in 1862, Sandvik has developed into a global enterprise, with a multifaceted expertise in the field of materials technology. The business philosophy has been largely the same through the years: Sandvik shall be the leader in selected areas. Products are based on high value content and are developed in close cooperation with customers. Quality is the guiding principle in the global operations.

Goal: improve customers' productivity

The Group’s goal is to actively contribute to improving the customers’ productivity and, consequently, their profitability. The products and services offered by Sandvik shall provide maximum value to customers in terms of performance, quality, speed, safety, flexibility and total economy.

Sandvik is focused on growth. Sales have nearly doubled during the past five years. To create a fertile ground on which to base a continued, strong expansion, operations are concentrated to three core areas.

- The Tooling business area focuses mainly on tools and tooling systems for metalworking applications. Major customers include companies in the automotive and aerospace industries.

- Mining and Construction specializes in rock-working equipment and tools used in mining and civil engineering worldwide.

- Materials Technology develops mainly products in stainless steel, special alloys and resistance heating materials as well as process systems. Customers are to be found in most industrial segments.

Four per cent invested in research and development
The Group’s successful development is a result of a goal-oriented investment in research, development and quality assurance. Sandvik invests nearly SEK 1.9 billion annually, corresponding to 4% of the Group’s total sales, in these areas. More than 2,200 employees around the world work in this area, of whom many are specialists with advanced educational backgrounds and skills.

Sandvik’s long-term and consistent strategy is based on the interaction between a number of strength factors, including advanced and broad R&D activities, highly value added products, own manufacturing, direct sales to customers, own market channels and effective logistics systems, financial strength and a strong corporate culture.

The significance of Sandvik as an advanced knowledge company is becoming increasingly apparent. In this respect, the Group’s IT development plays a central role for continued business development, in which e-commerce is an important component. Information technology is concentrated to areas that enhance customer benefits, improve productivity and strengthen profitability. This will give the Group distinct competitive advantages and actively contribute to continued profitable growth for the Sandvik Group.

4.1.1 History

The Company was founded in 1862 by Göran Fredrik Göransson, who was first in the world to succeed in using the Bessemer method for steel production on an industrial scale. At an early stage, operations focused on high quality and added value, investments in R&D, close contact with customers, and exports. This is a strategy that has remained unchanged through the years.

As early as the 1860s, the product range included drill steel for rock-drilling. The Company's listing on the Stockholm Stock Exchange took place in 1901. The manufacturing of stainless steel began in 1921 and cemented carbide in 1942. Production of cemented-carbide tools was begun in the 1950s in Gimo, Sweden. During the 1960s, a comprehensive investment program was carried out at the main plant in Sandviken. In 1972, the Company name was changed to Sandvik AB, and in 1984, a decentralized organization was introduced, with a parent company, separate business areas, regional companies and service companies.

In addition to organic growth, Sandvik's expansion has also involved a series of company acquisitions over the years. Recent examples include Kanthal, which manufactures metallic and ceramic resistance materials, and Tamrock, the Finnish manufacturer of rock-excavation machinery - both of which were acquired in 1997.
In 1999, the Saws and Tools business area was divested and Sandvik’s operations were concentrated on three core areas: Tooling, Mining and Construction and Specialty Steels. The last business area changed name to Sandvik Materials Technology on 1 January 2003.

The Sandvik Group currently has 42,000 employees with operations in 130 countries and annual sales of approximately SEK 72 billion. The head office is located in Sandviken, Sweden. (Facts acquired from www.smt.sandvik.com)

4.1.2 Interesting dates in Sandvik’s history

1858: On July 18, Göran Fredrik Göransson succeeded to produce steel using the Bessemer method for the first time in the world.
1862: The company was founded in Sandviken by Göran Fredrik Göransson. (Högbo Stål & Jernwerks AB)
1863: One of the largest steam hammers in Europe was taken into operation (it was used until 1920 and from 1933 displayed in the head office park in Sandviken).
1860s: Tyres for railroad cars and locomotives as well as propeller axles for steamboats were some of the company’s specialities and dominant products. Drill steel for rock drilling was another important product. The first agencies were established in e.g. Norway, Denmark, Great Britain, Russia, Germany and France.
1866: Högbo Stål & Jernwerks AB went bankrupt.
1868: The company was re-established under the name Sandvikens Jernwerks AB.
1868: The Sandvik name was registered.
1870s: Cold-rolled, u-shaped wire for umbrella ribs was a major seller. The product, Sandvik Paragon, was manufactured until 1951.
1872: Sandvik participated in the Moscow Exhibition. Russia was the Group’s dominant market during the first half of the 1870s.
1876: Wire rolling and cold drawing operations were started.
1876: Sandvik participated in the World Fair in Philadelphia, USA. Sandvik was officially used as a brand name for the first time. The first sales of Sandvik products were booked in the U.S. through an agent.
1876: A mill for cold-rolled steel rod was built. Wire for watch manufacturing, screws, bicycle spokes, springs and other products were produced at the plant.
1879: President (and the son of the founder), Anders Henrik Göransson received approval from the Swedish Board of Commerce to use the trademark "Fisk och Krokk" (Fish and Hook).

1880s: More refined products were introduced. Western Europe and the U.S. increased as markets. Russia declined. Production of carbon-steel springs and seamless tubing was started.

1883: Production of cold-rolled and hardened strip steel was started.

1885: Sandvik's first hand saw was delivered.

1886: Blooming mill started up.

1893: A large, new billet mill was built for production of wire, strip and tube.

1897: Sandvik participated in the Stockholm Exhibition, Sweden.

1898: The use of open-hearth furnaces was initiated.

1900: Göran Fredrik Göransson, founder of Sandvik, dies.

1901: Sandvik was introduced on the Stockholm Stock Exchange.

1902: Sandvik started to produce and deliver steel conveyor belts.

1903: Large-scale electrification of operations was started.

1907: Production of hollow drill steel for rock-drilling applications was started.

1909: First manufacturing outside Sweden. Springs for pocket watches are produced by a company in Switzerland in which Sandvik acquired a share majority.

1914: The first subsidiary was established, in the UK.

1919: Sandvik Steel Inc., the Group's first subsidiary in the U.S., was established. A new

Figure 10. Strip production in the early 20th century (Source: www.smt.sandvik.com)
forging mill was built, equipped with a large hydraulic press (2,000 tons). Electric
smelting in induction furnace was introduced in Sandviken.

1920: Production of electric steel was started.
1921: Production of stainless steel was started.
1924: The first seamless, stainless steel tubes were introduced on the market.
1929: The first electric arc furnace was taken into operation.
1930: Electrical power from Lanforsen, an affiliated company, was linked to the mill.
1933: A separate building for electric smelting was built.
1934: The first pilger mill was taken into operation.
1937: The South Mill for wire and saw production was taken into operation in Sandviken.
1938: A saw blade production plant was acquired in Italy.
1942: Coromant brand name established. Cemented-carbide-coated rock drills developed.
Subsidiaries in Italy and Finland started own production.
1943: First cemented-carbide tools for metalworking manufactured.
1944: Cemented-carbide tipped rock drills were used for the first time
1947: Production of Bessemer steel was discontinued.
1948: Plant for production of integral drill steels established in South Africa.
1950: Hot strip mill and East Mill for tube production were taken into operation,
spearheading a widespread, post-war modernization era of the production facilities in
Sandviken.
1950s: Ceramic cutting materials were introduced, as well as extension drill rods used for
drilling deep holes.
1951: Production of cemented-carbide products was started in Gimo, Sweden. Sponge
iron plant and a new rock-drilling workshop were taken into operation in Sandviken.
Plant and office inaugurated in the US.
1953: Construction of a cemented-carbide production plant was completed in Västberga,
Stockholm, Sweden. Production of cemented-carbide was started in Fair Lawn, NJ, in the
U.S.
1954: The new blooming mill was taken into operation in Sandviken.
1957: Premiere showing of T-max insert holder in US.
1958: The Göransson family's role as dominant owner was taken over by the Kinnevik
Group. Indexable technique with exchangeable cemented-carbide inserts was introduced
by Sandvik in Europe.
1959: A larger new, electric arc furnace was installed in Sandviken.
1960: The foundry was closed.
1960s: Comprehensive investment activity in Sandviken: tube mill 60, press mill 62, tube
mill 63, pilger mill 64, cold-rolling mills 61, 63 and 64, electric arc furnace 64, high-
vacuum electric arc furnace 64, hardening plant 65, tube mill 68, among others.

1961: Plants opened in India and Mexico.
1962: Plant opened in Brazil and 100th anniversary celebrated in Sandviken.
1968: Group's annual sales exceed SEK 1 billion. Regional warehouse established in Singapore.
1969: First in the world with surface-coated cemented-carbide inserts.
1970: Gultsmedshytte Bruks AB was acquired.
1971: Plants opened in the US and Canada.
1972: The company name was changed to Sandvik AB from Sandvikens Jernverks AB.
1973: Sandvik acquired 65% of all shares in Seco Tools AB. (1986 100%, from 1989 62%)
1976: Production of cemented carbide was started in Japan.
1979: The blast furnace in Gultsmedshyttan was closed, thereby terminating all production of pig iron.
1980: First Rotoform equipment developed. The Block Tools System for turning was introduced.
1981: Open-hearth production was discontinued, thereby marking the end of all ore-based steel production.
1982: Sandvik acquired production of hollow drill steel from Fagersta.
1983: Swedish company Skanska succeeded Kinnevik as principal owner of Sandvik.
1984: A new decentralized organization was introduced within Sandvik that included the parent company, separate business areas, regional companies and service companies. Avesta Sandvik Tube (Sandvik 25%) and Fagersta Stainless (Sandvik 50%) were established.
1985: Representative office opened in Beijing, China.
1989: Cooperation with Atlas Copco in the rock-drilling field is terminated (started during the 1940s).
1992: World's largest manufacturer of high-speed steel tools, CTT Tools, was acquired.
1996: Sandvik acquired 42% of Kanthal AB.
1997: Swedish investment company Industrivärden becomes new major owner of Sandvik (next largest owner after Robur Investment Funds). Sandvik becomes majority
shareholder in Kanthal. Sandvik acquired all shares in Tamrock. Sandvik acquired Precision Twist Drill, an American manufacturer of high-speed steel twist drills. Production of cemented-carbide powder was started in Gimo. A new cold-rolling mill was opened in Sandviken.


1999: Sandvik divested business area Saws and Tools and concentrated its operations to three core areas: Tooling (Sandvik Coromant, Sandvik CTT, Sandvik Hard Materials), Mining and Construction (Sandvik Tamrock, Driltech Mission, VA-Eimco, Roxon) and Specialty Steels (Sandvik Steel, Kanthal, Sandvik Process Systems).

2000: Sandvik acquired Austrian drilling equipment manufacturer Böhler, German steel belt manufacturer Hindrichs-Auffermann and Australian service company Beltreco, active in the mining industry. A new plant for production of solid-carbide tools was opened in Gimo, Sweden. Guldsmedshyttne Bruk was divested.

2001: New distribution center for cemented-carbide tools opened in Singapore. Stock buyback program approved at AGM. Crushing and screening operations acquired from Svedala Industri AB. Agreement with US company Smith International to set up a jointly owned company for roller cone bits (Sandvik: 50 percent). Acquisition of majority shareholding in German company Walter AG.

2002: Lars Pettersson succeeds Clas Åke Hedström as President and CEO. Hedström named new chairman after Percy Barnevik. Decision to shut down production of stainless spring wire at Gusab Stainless in Sweden, production of cemented-carbide seal rings and wear parts in Denmark and production of coal-mining equipment in Bluefield, USA.

Acquisition of North American tool company Valenite. First acquisition in Japan made through purchase of Mazda Earth Technologies’ brand Toyo in the mining and construction industry.

2003: The business area Sandvik Specialty Steels changes name to Sandvik Materials Technology. Inaugurations: In Shanghai a plant for the manufacture of processing systems and steel press plates; in Pune (India) a plant for the assembly of crushers, feeders and screens; in Stockholm a research center for materials development.
2004: Sale of German company Walter’s machine division. Several relatively small company acquisitions in the cemented-carbide area, in Germany and other countries, and one acquisition in the materials-handling area in Brazil.

Major investments in production capacity in the Sandvik Tooling business area – the development toward fewer and larger plants continues. A new distribution center for Sandvik Materials Technology opens in Venlo, Netherlands. The Annual General Meeting approved the Board’s proposal to extend the mandate for repurchase of shares in the company.

2005: Disbursement of approximately SEK 4 billion to shareholders through redemption of shares. Sandvik acquires Smith International’s 50% interest in jointly owned Sandvik Smith AB, and the company becomes wholly owned. Acquisition of 10% of the share capital in Chinese metal powder producer Gesac. Sandvik implements compulsory redemption of the 3.56 percent of shares outstanding in German company Walter AG.

2006: Acquisition of four companies within mineral exploration: Swedish-Japanese company Hagby-Asahi, SDS Corporation and UDR Group in Australia, and the Chilean company Implementos Mineros (Implemin).

Acquisition of powder metallurgy company Metso Powdermet.

5:1 share split of Sandvik share (record date, 12 June).

As of 1 January a new Group Staff, Group Assurance, has been assigned by the Board of Directors and the Audit Committee of Sandvik AB to evaluate the Group’s corporate governance, internal controls and risk management. (www.smt.sandvik.com)

4.1.3 Materials Technology

Sandvik Materials Technology is a world leading producer of high technology stainless steels, special alloy materials and advanced value-added products.

Sandvik Materials Technology is a business area within the Sandvik Group. It has about 8,600 employees and annual sales of approximately SEK 19,300 M. The business area is a high-technology, cooperation partner within the field of materials technology, which means that products and materials are developed in close cooperation with customers. Sandvik Materials Technology comprises five product areas: Tube, Strip, Wire, Kanthal
Product area **Tube** specialises in seamless and welded tubes, fittings and flanges and is a world leader in tubular products made from advanced metals and special stainless steel alloys. Key markets include the chemical, petrochemical, oil and gas, power, electronics and many other industries where corrosion resistance, mechanical properties and reliability of operation are critical. The product area also markets complementary sheet and plate.

Also included in the Tube product area are stainless steels for machining. For many years, Sandvik has pioneered their development, working alongside sister company, Sandvik Coromant, a world leader in machining tools. This cooperation gives a unique possibility to offer materials and tools with an optimum compatibility.

Other Tube products are alloys of nickel, titanium and zirconium for advanced applications, such as nuclear power and aerospace.

The **Strip** product area manufacturers and supplies precision strip steel in high and special alloy grades for niche applications ranging from razor blades, medical instruments, springs, domestic and industrial knives to strip for catalytic converters, compressor flapper valves and photochemical machining.

Product area **Wire** produces precision wire, profiles, spring wire and welding products in a range of stainless and high alloy steel grades. Many are developed specially for particular applications in the automotive, oil and gas, electronics and medical industries.

**Kanthal** develops and manufacturers metal and ceramic resistance materials in the form of wire, strip, elements and systems for electrical heating in household appliances, industrial furnaces and processing equipment. It also provides customised solutions to consumer product and industrial heating problems.

**Process Systems** supplies steel belts, press plates and associated equipment, such as machinery parts or complete machinery systems. It is particularly involved in the sorting, chemical, wood based panels and food industries.

*(Facts acquired from www.smt.sandvik.com)*
4.1.3.1 Band Market Service SBMS

Every product area of SMT has a division called market service. At the product area strip the market service department currently consists of five employees managed by the Market Service Manager. The employees are divided to take care of different geographical regions in first hand but also into different segments (Automotive, Spring, medical and so on). Each segment has a GPM, PS and a Business developer which is responsible for different areas in their respective segment such as long term development and are also responsible for technical matters etc. At SBMS there are two employees for Europe, two for Asia and one for America. Market service is like the name indicates a department that supports the market in different ways. Their job assignments involves booking orders, billing and similar administrative work but their main task is to answer all the questions and solve different problems that customers or the people at the sales units might have. Almost all of this information flow runs through the three common mailboxes which are geographically divided.

The way the information flow is organized today, market service is short-staffed. Instead of just hiring more staff the manager is determined to coordinate the information flow so that it becomes easier to support the market and to shorten the lead time. He also wants to improve the sales tool portal so that it can be used in a better and more frequent way.

![Organization chart, SBMS](Source: www.smt.sandvik.com)
5 Description of the situation today

In this chapter the current situation is described including the problem areas.

5.1 Market Service

The information flow regarding orders at market service looks like the figure below (figure 12) illustrates. Inquiries from the SU’s arrive to one of the common mailboxes depending on which region it concerns. This inquiry is forwarded to a product specialist for the specific segment. The product specialist makes an offer that is send back to the SU. In the offer they state the delivery time, price, term of delivery, term of payment and so on. The SU contact the customers and if they feel satisfied with the offer they will put an order through the system, if they have access to it, otherwise through a fax or mail. This is of course not the case if it is a regular customer that orders the same thing over and over again. Then the order is transmitted through the system at once because the inquiry has already been made a long time ago.

At market service the orders often arrive through a system called IMS and end up in a cue. The employees print the orders belonging to their region and book them. All orders are booked manually. When an order is booked it moves on to the planning division and their cue. The planners plan the order trough the production or take material from stock if available. When this is done the customer receive an order acknowledgement either automatic or manually through the mailbox. If a delay occurs a new order acknowledgement is send to the customer. This doesn’t work as it is supposed to and often the customer doesn’t get any information about the order being delayed. This problem is important to manage in a better way because it can reduce the mails that the SU’s send asking to confirm if the material will be delivered in time.

When the order is completed it is packed. The certificates are made and market service must make the billing and release the order from the pre-billing cue. The final step is made at the shipping department. They load the trucks and make sure that the drivers have all the papers necessary. Below is a flowchart of the general order process at Sandvik. To get a more detailed view of the different parts of the order process at SMT in exhibit 2.
5.1.1 Problem areas

5.1.1.1 Mailbox overload and disorder

As you can see in the flowchart below (figure 13) the mailbox is used in many steps of the process. This creates an overload in the mailboxes which leads to a disorder. The disorder in the mailboxes creates problems such as delays in response time and consequently unsatisfied people at the SU’s and ultimately this will affect the end customer in a negative way. The delivery precision of the whole PU is also affected by these problems which is a very serious factor. Finally, small problems like this can blow up and in the end affect the reputation of Market service and even Sandvik as a company from the customer’s perspective.

The mails are not tagged today, which means that you can not sort out the different categories of mails in the mailboxes. An example of a problem that can occur if the mails are not tagged is that it can take long time before a delay notification can be sent to the SU’s because the mails are not sorted in the mailboxes which leads to long response times. Another problem in the mailboxes is that the people at Market service must read
every mail before they can forward or assign it to the person responsible for that area. This is illustrated by the flowchart below;

![Order process flowchart](image)

*Figure 13. Order process at SMT Strip*

5.1.1.2 Differences in way of working

Today the different divisions do not work with the same organizational structure. The market service is geographically divided and work against different regions as well as the SU’s. This is not the case when it regards the product specialists and the global product managers. They are divided in different segments such as Edge & Shaving, Paper, Printing & Saw etc. This is not an optimal way of work since all the divisions work together towards the customer. The problems that can occur from this are that it can get confusing between the divisions and make it difficult to know who is responsible.

5.1.1.3 Sales Tools Portal

This tool is used to facilitate the work for the Sales units. It contains a lot of data on products, lead times etc. so that the employees can access this when they have doubts. The intention of this tool is great but unfortunately it is not working as intended today. The main reason for this is that the updating and maintenance of the Portal is not being handled in an effective way. This fact comes from that the person responsible for those functions does not have time to engage in them. As a consequence of this the SU’s do not
trust the information that exists there. Instead they send mails to Market service which creates a lot of unnecessary work for them.

5.2 Sales unit

The sales unit’s works in liaison internally with Market service to serve as a linkage between Sandvik and the end customers. The SU’s contains of indoor and outdoor salesmen. The indoor salesmen’s main tasks are to have a close relation to market service, send in orders and similar administrative work. The Outdoor salesmen on the other hand have a close relation with customers. They visit the existing customers and also try to get new customers.

5.2.1 Problem areas

5.2.1.1 Lack of knowledge

The sales units currently have a limited knowledge about how to use the Sales Tools Portal in order to make it easier for them to work effectively in liaison with the PU. This leads to unnecessary mail traffic and creates time delays which affect the end customers in a negative way.

5.2.1.2 Trust

The trust between the SU’s and the PU is not as it should be currently. This depends on a lot of different factors but the most significant is the lack of internal communication at the PU. When a person at an SU ask different persons at MS about for example a delivery time they will get different answers. This creates confusion for the SU’s and they do not know who they should trust or not. They will probably go with the person that has given them the best delivery time but that is not always the truthful delivery time in reality which creates a lot of problems.

The people at the SU’s of course also have a responsibility in this matter since they sometimes will use this lack of communication by trying to pressure the people at MS for better answers concerning delivery times etc.
5.3 Mail traffic and routing of information between MS and SU

The lead times and the response of the questions in the mailboxes are as you can see below not satisfying at all today. The response time can be up to 7 days which lead to unsatisfied customers in many aspects.

Figure 14. Current mail traffic and routing situation at SBMS
6 Analysis/proposals for improvements

In this chapter we analyze the problem areas and propose improvements to the different problem areas.

6.1 Market service

6.1.1 Sales Tools portal

When a person at the SU is looking for information in the Sales Tools portal there can be difficulties in finding the responsible person/department to contact for that specific area. Some segments are more developed than others in terms of contact abilities. Today to find contact information you have to click on contact information at SBMS. After doing this an organization chart appears with clickable contact persons. This may seem easy but the problem is that the contact information lies under the folder general marketing. This is not logical since you often access the folder of the segment you are interested in but there it is impossible to find any contact information what so ever. This can be improved by updating the sales portal and adding correct mail addresses in the segment folders so that the SU’s can see who they can contact and do this by a simple click on the area selected.

An input that we got from our interviews is that it is not that easy to find the link to the sales tools portal from the SU’s perspective. They have a more complicated way to access the portal compared to the people at the PU. To improve this you can add a direct link on the desktop or similar.

The structure of the different sales tools portals at SMT is not the same today since they have been constructed by different persons. This factor creates problems for the SU’s because they work with several product areas and therefore must learn to navigate in the different environments. The SU’s think that it is complicated for them since the sales tool portals at the different product areas are not uniformed. This problem could be solved by starting a central restructuring project at SMT in order to unify the sales tool portals so that they all have the same appearance.
6.2  **Sales unit**

6.2.1 Educational routines

To educate the SU’s so that they can get greater knowledge about the sales tools portal and how it can help them in their daily work, people from the PU’s have to inform them about how and where to find information on the sales tools portal instead of answering their questions over and over again as is the case today. If the PU’s keep on answering the mails as they do today the SU’s will not change their behavior and realize the benefit of using the sales tools portal.

People at the PU’s have to stop answering the questions, otherwise this problem will never stop. It may seem a bit harsh but it’s the best solution for all parties in the long run. This will result in a reduction of unnecessary mail traffic which will allow the PU’s to focus on more important tasks.

6.3  **Mail traffic and routing of information between MS and SU**

6.3.1 Segmentation of mailboxes

After discussion with our mentor Jonas Hofvenstam we came up with a proposal for a segmentation of the mailboxes. This proposal has one mailbox for each segment instead of the three regional that exists today. Each segment should include one Global product manager (GPM), one Product specialist, one business developer, 1-2 order administrators and 1-2 planners. The advantages of this proposal in comparison with the existing structure are that the employees can get a deeper knowledge of a certain segment and consequently be able to answer specified questions much easier. An illustration of this proposal can be seen below:
After some discussion we thought that this proposal was not perfect and could be improved in order to achieve greater structure. The new and improved solution included, except of the segment mailboxes, a general mailbox for Market service where questions regarding shipping information, customer information, payment terms / Confirmation of payment and changes in the order should be handled. We also suggested that a mailbox for each of the planning divisions (cold and hot milling) should be added. Questions regarding delivery time and delays should be handled in those mailboxes. The remaining categories of questions (Enquiries, technical issues, pricing and financial issues) should be handled by the Product specialist, GPM and the Business developer in the segment mailboxes. An illustration of this proposal is shown below:
These improvements lead to a greater order in the mail traffic and at the same time less forwarding of mails. Each division is included and have their own mailbox, which was not the case before. It also results in that the questions can be directed to the right destination at once instead of being forwarded which saves a lot of time.

The inputs from the interviews made us realize that the second proposal had a lot of negative effects as well, such as that the planning mailboxes will probably cause more trouble than advantages and that the general mailbox for market service is unnecessary. If the people from the SU’s can contact the planners without the Market service knowing, this will cause problems such as lack of control regarding knowledge about what has been promised, decisions that have been made etc. The planners do not have knowledge about internal regulations and therefore wrong decisions can be made. Regarding the general mailbox the interviewees thought that they could distribute the mail that end up in the wrong segment to the correct one manually.

Another input from the interviews was that having to many mailboxes, as was the case in the second proposal, can create confusions regarding which mailbox to choose for the mail for the SU’s.

Some of the interviewees thought that they would have to check two mailboxes, their personal and the one belonging to their segment, and felt that it would create additional
work for them. But we think that this would only occur in the transition phase between the existing regional structure and the proposed segmented structure.

After the interviews it was concluded by us that the opinion of the persons interviewed was that the first proposal was superior in comparison with the second, but only in combination with the tagging system. Otherwise the situation in the segment mailboxes will get worse then it is today because mails from the entire world will arrive to it, creating a big mess.

Based upon these facts we had a meeting with our mentors and finally decided that the proposal with only the segment mailboxes is the best solution for everyone.

6.3.2 Tagging of e-mails

6.3.2.1 Routing of mails to responsible person

To facilitate the routing of e-mails so that the questions arrive at the correct mailbox the mails need to be tagged. This could be solved by selecting the properties of the mail in a formulary by the SU’s. The properties could be ABC-classification, customer name, which segment is concerns, category of question and what it concerns. One solution is that once you have selected the properties of the mail the address of the responsible person will appear in the address field in Lotus notes. An alternative possibility is that the correct address will be shown in the Sales portal and that you can click the link and be connected to Lotus notes with the address filled in.

This solution is illustrated below by a few examples:

```
Customer name
A Customer
B Customer
C Customer
Segment
AA
PPS
SEM
ES
OG

Question
Confirmation
Information
Material
Amount
Quality
Price
Order
Customer
Delivery time / order status
Delivery conditions
Payment
Packing
Enquiry

Figure 17: Proposal of formulary of questions from the SU’s to the PU’s
```
Figure 18. Illustration of a typical question intended to Market Service

- **Customer name**
- **Question**: What can you change in the order delivery type from DDC to CSD (via split point Lenzburg)?
- **Confirmation**
- **Information**
  - **Material**: Amount, Quality, Price
  - **Order**: Customer, Delivery time / order status, Delivery conditions, Payment, Packing
- **Enquiry**

Figure 19. Illustration of a typical question intended to the planning division

- **Customer name**
- **Question**: Is it possible to get this material before week 19?
- **Confirmation**
- **Information**
  - **Material**: Amount, Quality, Price
  - **Order**: Customer, Delivery time / order status, Delivery conditions, Payment, Packing
- **Enquiry**
After presenting this solution during the interview with the Customer Service Manager at the product area Wire we got several suggestions on how to improve the solution. He suggested a few modifications to the formulary such as: new customer as an alternative, other as an alternative when it regards the segment and which type of question it is and if it is a standard or non standard inquiry. Below is the improved solution of the formulary:

### Figure 21. Improved solution of the tagging formulary

<table>
<thead>
<tr>
<th>Customer name</th>
<th>Question</th>
<th>Confirmation</th>
<th>Information</th>
<th>Enquiry</th>
<th>Account</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Customer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Customer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Customer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New customer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Question
- **Material**
  - Amount
  - Quality
  - Price

#### Information
- **Order**
  - Customer
  - Delivery time / order status
  - Delivery conditions
  - Payment
  - Packing

#### Enquiry
- Standard
- Non standard

---

**Figure 20. Illustration of a typical question intended to a Product Specialist**
6.3.2.2 Categorization of mails

A possible improvement regarding the tagging of the e-mails is that the mails should be categorized according to the proposals of the segmentation. When a person at the SU categorizes their mail in the formulary this is connected to the mail system and the category of the mail will appear in the subject field. Today every person at the SU can write what they want in the subject field which leads to that same type of questions will have different appearances. This makes it hard for the PU’s to identify what type of question it is and in some cases they need to read the mail to understand what it is about.

The categorizing of the mails will create a uniformed system that everyone understands and is easy to follow. It will also minimize the risk of not discovering urgent mails in time. A good example of this is when a customer wants to change the dimension of an order. The customer send a mail to the common mailbox, because of the overload and disorder in the mailbox it can take several days before this mail is forwarded to the planning department. Once the mail has reached the planning department it may be too late to change the order because it has already been slitted in production.
7 Recommendations

After analyzing and improving the different problem areas we have presented recommendations for each one of them. Every solution includes recommendations and a short strategy for actions in the end.

7.1 Strategy

7.1.1 Segmentation of mailboxes

As you can read in the analysis chapter we had two suggestions on how to design the segmented mailboxes. Both of these had positive and negative aspects and we compared these factors with each other to decide which one would be the best.

The proposal that we recommend is the one with five mailboxes, one for each segment where each segment includes one Global product manager (GPM), one Product specialist, one business developer, 1-2 order administrators and 1-2 planners. These different roles will all be responsible for mails belonging to them in each mailbox/segment.

It is also important that a person that will be responsible for the implementation is announced to push the project in the right direction. Our suggestion is that this person should be the Market Service Manager Jonas Hofvenstam since he is the one most familiar with the situation.

To be sure that the solution we have chosen also is the best considering the SU’s a research regarding their opinions should be performed by the person responsible for the implementation. This should be done either by meetings or video conferences with the managers for each region of the sales units.

Before implementing the solution the technical department needs to be contacted so that they can implement the new solution and also make all the connections necessary (SSCS, sales tools portal, the SU’s etc.).

Before the implementation it is also important that everyone that works at the PU need to be informed about the change from regional to segmented mailboxes, how this will affect them personally and how they should work with the new structure.
The next step in the strategy is to inform the sales units about how the changes affect them and how they should use the new segmented mailboxes. This should be done through every communication channel possible such as the intranet, sales tools portal, newsletters, by mail and so on.

Finally a follow-up should be performed regularly to ensure the success of the new structure of work.

To sum up our recommendations regarding the segmentation of the mailboxes these following steps should be executed:

- Decide to use the solution with the segmented mailboxes
- Announce a person responsible for the implementation process. Our recommendation for this person is Jonas Hofvenstam
- Make a research regarding the SU’s opinions
- Involve a technical department
- Inform/educate the people at the PU about the change from regional to segmented mailboxes
- Inform the SU’s about how they should use the new segmented mailboxes
- Regular follow-up

7.1.2 Tagging of e-mails

When implementing the solution with the segmented mailboxes all kind of mails from the entire world will arrive to a certain segment. To avoid a mess in the mailboxes we strongly recommend that a tagging system, such as the one displayed in the analysis/improvement chapter, should be applied to the solution. The tagging system is as mentioned earlier based on a formulary where the different properties of the errand are chosen. We recommend that these different properties should be customer name, ABC-classification, which segment it concerns, which type of question it is, what the question regards and if it is an enquiry. Based on what you choose among these an address will appear in the Lotus notes address field. It is also possible to add more options so therefore we recommend a discussion among the people working at the PU about which properties should be included.
We also recommend that a categorization function should be linked between the formulary and Lotus notes so that the category of the question will appear in the subject field as well. This will make the subject field uniformed for all mails.

Before implementing the tagging system it is important to contact the technical department to investigate that all the functions and linkages are possible to implement.

The SU’s need to be informed about the tagging system and how to use it properly before the implementation.

Finally a follow-up should be performed to ensure that the formulary is used correctly.

To sum up our recommendations regarding tagging system these following steps should be executed:

- Have a meeting at the PU about which properties should be included in the formulary
- Investigate the technical aspects
- Design a final version of the formulary
- Inform the SU’s about the tagging system and its functions
- Implement the tagging system
- Perform a regular follow-up to ensure that the tagging system is successful

7.1.3 Sales tools portal

7.1.3.1 Education

To fully utilize the potential of the sales tools portal it is necessary to educate the people working at the SU’s on how they can use the sales tools portal to make their work easier. This education should be done in several ways. The most important way to educate the SU’s is as mentioned earlier not by letting them go on a education program but rather to stop answering on their questions through the mail and to direct them on where on the sales tools portal they can find the information. This will work as an ongoing constant education.

After our interview at the product area Wire we found out that there should not be any soft transition period where you both answer the question by mail and direct them to the
sales tools portal. They will only read the answer in the mail and disregard the direction to the sales tool portal. It is important that you are strict on this point since it will decrease a lot of unnecessary mail traffic.

We feel that the best solution is to combine the recommendation above with some kind of education program where people from the PU can sit down with the people at the SU and educate them on how the sales tools portal should be used. Direct contact such as this leaves a much greater impact on since it is on a personal level. If any new information or changes to the existing is made on the sales tools portal the SU’s must be informed as soon as possible so that no misunderstanding occurs.

To sum up our recommendations regarding the education on the sales tools portal these following steps should be executed:

- Educational program on a personal level
- Stop answering the questions where the answer can be found on the sales tools portal an instead direct the SU’s on where to find the information
- Inform if changes are made on the sales tools portal

7.1.3.2 Improving the portal

As mentioned before in this paper the portal is not constructed in an optimal way. It is not so easy to find contact information and you can only do this on one certain place on the portal. The information is not always updated as it should and this also differs depending on which segment you are looking at. Another thing is that the SU’s find it hard to use the portal since it looks different within SMT (Wire, Tube Strip).

The recommendations for the problems mentioned above are several. To start with a person must be assigned to be responsible and to develop the portal. Based on our interviews it should be Jessica Ericsson since she is the one responsible for the communication at Strip. When this person at Strip has been selected a central restructuring project at SMT should start in order to unify the sales tool portals so that they all have the same appearance. During the interview at Wire the Customer Service Manager said that he wanted this but felt that there was no one he could work with from
Strip that was responsible for the portal. By performing a central restructuring program the sales tools portals would have the same appearance regardless of which product area they belong and make it a lot easier for the people at the SU’s to navigate on the different portals. The sales tools portals will have similar information, layout and structure.

Another thing that we recommend is a similar execution guide that Wire had. In the guide you can find all kind of information summarized such as contact persons for each segment, delivery times and so on.

When the portals are uniformed and updated it is important to inform the SU’s on how to navigate. This can be done in connection with the education program described in the section above.

To sum up the recommendations of how to improve the sales tools portal the following actions need to be considered:

- Start with announcing a person responsible for the sales tools portal
- Start a central restructuring project at SMT in order to unify the sales tool portals
- Update the portals with similar information, layout, structure and so on.
- Make a execution guide
- Educate people at the SU’s abut how to use the sales tools portal
8 Conclusion

The problems that exist today at the PU and the SU are not impossible to correct. If the managers follow our recommendations and apply our strategy the problems will probably disappear in a couple of months.

The effects will probably be that the way of communication within the PU and with the SU’s will be much more effective leading to more satisfied customers and a better reputation for the PU in the long run. Another effect will most certainly be that the delivery precision is improved which is a very positive factor for SMT Strip.

8.1 Suggestions for future studies

When you perform a project there are always things that pop up along the way that you do not have time to investigate. A couple of things have occurred during this project that we suggest for future studies. The opinions of the SU’s from around the world regarding our solutions are a very important factor to investigate since they are affected directly by them. The only reason for that we could not do this was lack of time.

Another suggestion is to create a structure for the errand process at the PU and SU since we only have scratched the surface in this matter. The basic idea for this structure is that the SU’s can follow an errand much closer than today, for example they can see the date and time when the errand has been received and which person that has taken care of the errand. It will work like a track and trace system but applied to information instead of goods. This structure also helps the people at the PU because they can get better overview of the errands.

The technical aspects of this solution need to be investigated, the only thing we had time to do is a simple flowchart of the errand process. With this flowchart you can easily measure the service level and the maximum time or the objective time. The flowchart is displayed below:
Figure 22. Flowchart of the proposed errand process
9 Project evaluation

We think that this project has been very fun and rewarding. It was a bit different from the courses we had studied during our education in the sense that we were working with internal communication and information flows while the focus in school was on production flows and the improvements of these. Even though there were a lot of similarities and we experienced that we could use major parts of the theory learned in school and apply it in the real life through the project.

The fact that Senad Kovac had been working at SBMS for the last two summers and that the both of us had a lot of knowledge about Sandvik AB from before made it easy to start working with the project at once. We were also very familiar with the employees which made it easier to take contact with them and ask them if anything was unclear. Thanks to this we did not have to dedicate any time on getting to know the employees or the organization and could start working with the project immediately. It also helped us to map and understand the flows since we already knew what they looked like.

When it comes to learning we learned a lot of new things but also gained deeper knowledge in areas that we concerned earlier. As we mentioned earlier we were looking at information flows and how to optimize them with new solutions in this project which was something new to us since we only had knowledge about flows in production from before.

We also consider that we have matured and learned to take more responsibility regarding working in a project. A big reason for this is that our mentor Göte Olsson from the University of Gävle did not hold us back and was only helping if there was something that was impossible to solve on our own. He gave us a lot of responsibility and trusted that we could execute the project independently.

Another important factor for the success of this project is that our mentor at SBMS Jonas Hofvenstam has shown a lot of dedication and commitment throughout the whole period. He was available most of the time and it was easy to discuss different kind of ideas with him.

If we look at the project in the retro perspective a factor that have affected us is that the project was presented to us the 3rd of April, the details of it the 11th of April and that we
did not start to write on the report until the middle of April because of this. The reason for this delay was partly that our mentor had no time to fit us in earlier in the end of March because he had to focus on his work, but also that it took a while until the project was approved from the school. If we could have started with the project a couple of weeks earlier the result of the project probably would have been more complete. As an example we had planned to ask the SU’s about their opinions on our solutions but we had no time for this. Another consequence of this is that our report could have been more complete and exact if we had a couple of weeks in the end to perfectionize it.

To summarise the project we were satisfied with the result and the way that the project has been executed. There will always bee some areas that could have been better when you look back but that is always the case when you work in a project.
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Exhibit 1 – Interview formulary

Below you can see a few examples of the interview formularies we used when we performed our interviews. The questions are in Swedish since the interview was performed in Swedish.

Intervjufrågor Produktspecialist och GPM

1. MS vidarebefordrar frågor till er brevlåda, vad tycker ni om detta?

2. Hur ser det ut i er låda/inbox? Är det röligt i dagsläget?

3. Vad tycker du om att man segmenterar lådorna?

4. Visa bild. Hur skulle du vilja att en segmentering såg ut?

5. Vad tycker du om att SU: na får tagga mailen så att de kommer till rätt ställe på en gång istället för att de vidarebefordras?

6. Visa exempel på formuläret, ta in åsikter

7. På vilket sätt använder du säljportalen i det dagliga arbetet?

8. Är säljporten ett hjälpmedel idag?

9. Vilken sorts information brukar SU hämta från säljportalen?

10. Anser du att säljportalen kan förbättras, i så fall på vilket sätt?

11. Hur mycket tid lägger du på att utveckla portalen?

12. Vilka verktyg använder du för att göra förfråningar?

13. Hur kan man utveckla verktygen för att hjälpa säljenheterna?

14. Har någon uppföljning gjorts på vad SU: na tycker om Sales Portalen?
Intervjufrågor Tråd

Segmentering av brevlådor

1. Hur ser lösningen med brevlådorna ut hos er på tråd?
2. Vad tycker ni om vårt förslag?
3. Vad var anledningen till att ni segmenterade era lådor?
4. Vad tyckte SU:na om segmenteringen?
5. Vad ska man tänka på när man inför segmentering av brevlådor?
6. Hade ni några problem då ni gick över till segmenterade brevlådor?
7. Vad har blivit bättre med segmenterade lådor jämfört med regionsindelade?
8. Hur var det i övergångsfasen? Fortsatte SU: na att skicka mail till de privata inboxarna eller de gamla lådorna?
9. Hur informerade ni SU:na om segmenteringen?

Taggningen

1. Vad tycker du om att SU’na får tagga mailen så att de kommer till rätt ställe på en gång istället för att de vidarebefordras?
2. Visa exempel på formuläret med olika slags frågor, ta in åsikter
3. Kan vårt förslag förbättras på något sätt?

Säljportalen

1. Kan ni visa hur er sales portal ser ut
2. Vilken sorts information kan SU: na hämta från den?
3. Hur håller ni den uppdaterad?
4. Finns det någon/några personer som är ansvarig/a för sales portalen?

5. Hur fick ni SU: na att använda sig utav sales portalen?

6. Fortsatte SU: na att skicka mail om information som fanns att hämta på sales portalen efter att förändringen hade införts?

7. I sådana fall, var ni hårda och hänvisade till säljportalen?
Exhibit 2 – Value stream mapping

Below is an overview of the different parts of the order process at Sandvik Materials Technology, Strip

Current Situation
Inquiry to Offer – SU

Current Situation
Inquiry to Offer – PU Strip