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IMPLEMENTATION OF ELECTRONIC SERVICE REPORTING PROCESS

– case Cargotec Finland Oy's Kalmar Group



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SÄHKÖISEN RAPORTOINTIPROSESSIN KÄYTTÖÖNOTTO – CASE CARGOTEC FINLAND OY:N KALMAR-YHTIÖ

Perinteisestä työaika- ja palveluraportoinnista siirtyminen sähköisen raportointiin on ajankohtainen aihe monille yrityksille jotka haluavat kehittää toimintaansa. Jatkuvasti muuttuvan työympäristön tarpeet täyttävän ja toimivan sähköisen raportointijärjestelmän suunnittelu on vaativa tehtävä. Teknisten haasteiden lisäksi tulee myös huomioida, että muutos voi rasittaa järjestelmän loppukäyttäjiä joiden täytyy päivittää teknisiä taitojaan ja sopeutua uuteen raportointirutiiniin.

Tämän toiminnallisen opinnäytetyön tarkoitus on suunnitella sopiva sähköinen vaihtoehto Cargotec Finland Oy:n ylläpitöinsinöörien nykyisessä käytössä olevalle palveluraportointijärjestelmälle, sekä esitellä toimintasuunnitelma käyttäjien tutustuttamisesta uuteen raportointiprosessiin. Prosessin uudistamisen tarkoituksena on nopeuttaa ja yksinkertaistaa raportointiprosessia, minkä voi odottaa vaikuttavan positiivisesti laskutusajan ja prosessin pituuteen.

Tämä opinnäytetyö sekoittaa sekä käytännön että teoreettisia osioita. Käytännön osio koostuu uuden raportointiprosessin sekä raportointilomakesuunnitelman esittelystä, ja teoreettinen osio keskittyy sisäisen kommunikaation sekä muutosjohtajuuden teorioihin, jotka edesauttavat muutoksen menestyksestä läpivientiä.

ASIASANAT:

Palveluraportointi, työaikaraportointi, prosessin käyttöönotto, sisäinen kommunikaatio, prosessien suunnittelu, muutosjohtajuus

BACHELOR'S THESIS | ABSTRACT

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Moving from traditional time sheet and service reporting into electronic reporting is a current topic for many companies aiming at improving their operations. Designing an electronic reporting system that is both functional, and meets the demands of an increasingly changing working environment is a challenging task. Along with technical challenges it must also be taken into consideration that the change can be strenuous to the end users, who have to upgrade their technical skills and adapt to a new working routine.

The purpose of this thesis is to find a suitable electronic alternative for Cargotec Finland Oy's maintenance engineers' current service reporting system, as well as to present an action plan on the introduction of the new reporting process to the user audience. The purpose of the processing reformation is to hasten and simplify the reporting process, which can be expected to positively impact the length of the invoice and process lead times.

This thesis intertwines functional and theoretical aspects. The former introduces a new reporting process and a visual proposition of the reporting form, and the latter focuses on theories regarding internal communication and change management, which help to secure the successfulness of the implementation.

KEYWORDS:

Service reporting, time sheet reporting, process implementation, internal communication, process design, change management

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1 INTRODUCTION

This practical bachelor's thesis is commissioned by Cargotec Finland Oy's Kalmar Industries group, which is looking to modernise their current paper-based time sheet and service reporting system by replacing it with an electronic one. The current reporting system is outdated, slow and creates redundant work for the end users. This thesis aims to present a functional electronic processing option and implementation plan.

Replacing outdated paper-based processes with electronic ones is a hot topic for many companies currently as this often helps the company improve their competitiveness, information flow and profit. In Kalmar Industries' case, the new reporting system is expected to shorten the lead times and invoice processing, simplify the current process and help the company improve its performance. It is also expected to bring the reporting process up to par with the company's other electronic processes. Due to a confidentiality agreement, the lead times and associated costs and savings are not disclosed in this thesis.

This thesis has two main objectives. Firstly, to plan a renewed electronic reporting process which fits the company's requirements regarding functionality and visual style, and secondly, to plan the implementation process for the personnel in order to help them adjust to the change, as the change process can also be the cause of strain to the employees whose working routines it affects. The technical execution of the report form and software integration is to be outsourced.

The new reporting process and report form are planned to primarily suit the needs of Kalmar Industries' Finland sites, where the electronic service reporting process is implemented later in the year 2015. In time, a modified version of the electronic reporting process may be implemented in all of Kalmar's operative countries. Because of the company's global need for an electronic reporting process, this thesis also addresses global aspects of the report process renewal, and presents suggestions for future global implementation.

2 ASSIGNMENT BACKGROUND

This chapter introduces the company, the report's end users and the benefits of the new reporting system as opposed to the old system.

2.1 Project background

The commissioner of this thesis, Cargotec Finland Oy's Kalmar Industries group, is a subsidiary company to Cargotec Corporation. Kalmar Industries has more than 5200 employees in 30 countries, and its business portfolio consists of cargo handling solutions and services to ports, terminals and heavy industry. Kalmar Industries' head office is located in Tampere, Finland.

In this Thesis, the commonly used brand name "Kalmar" is used to refer to Cargotec Corporation's Kalmar Industries group. The name Cargotec Finland Oy is used to refer to all of the company's Finnish operations, including Kalmar. The suffix "Oy", which refers to Cargotec Finland Oy's status as a listed company, should not be translated due to being registered as part of the company name in Finland.

The end users of the new reporting process are the mechanical engineers employed by Kalmar. The engineers fix mechanical issues in the heavy machinery leased or sold by Kalmar. As part of their work, the engineers visit the customers' sites which are located around the country.

In Finland, approximately 30 engineers are currently employed, some of them working in fixed points and some of them constantly on the road. Due to their changing working locations, they report their working hours and travel expenses using the service report form as an intermediate tool before entering the data to SAP, which is a software system used to collect and control billing information. The engineers spend approximately 4/5 of their working time outside of their local site office, which means that most of their time sheet reporting as well as their project reporting is based on the service reports they fill out.

Several parties within the organisation were consulted during the writing of this thesis, including development management, top management and engineers. The main problems as described by these individuals regarding the current reporting process were long lead times, rigid system functions, redundant steps in the process and problems with the system when using a wireless Internet connection.

2.2 Benefits of process modernisation

Companies not only compete with their products and services, but also with their innovativeness and their ability to find new solutions, which is why processes which support the company's functions cannot remain in stasis, but need to constantly be improved upon (Koistinen 2002, 27). The reward is faster processes leading to improved customer satisfaction, fewer mistakes and cost savings (Tähtinen 2005, 25). Recently, improved information technology has been a source of major advantageous changes, and has enabled a completely new approach to processes (Harmon 2003, 63).

Pekka Mattila, the author of "Johdettu muutos – Avaimet organisaation hallittuun uudistumiseen" suggests that changes in the operational environment, such as evolving technology, often push the company to change their operational processes (Mattila 2011, 242) while they are simultaneously becoming increasingly dependent on their IT systems and processes being up-to-date and functional (Koistinen 2002, 19). The ability to successfully initiate and permanently maintain changes can be called an organisation's life insurance (Mattila, 2011, 243).

Modernising the service reporting system is advantageous to Kalmar, both in terms of profits and in terms of improving the company's functions and competitive edge. The new system can be estimated to cut down the lead times significantly, which means faster invoice processing and less time and labor spent on a single project. The lead time in this context means the entire process from the start and until the data has been processed into an invoice. In general, shorten-

ing lead times means that work is completed faster, and bills can be sent to the customers quicker, bringing a competitive edge to the organisation while also forcing it to eliminate useless processes (Industry Week, 2012). In Kalmar's case, renewing the reporting process creates a simplified, functional process which is more user-friendly and less prone to human errors.

Within the company, the overall lead time is further divided into two sections which are evaluated separately: the time sheet lead time and the back office lead time. The former consists of the time it takes for the engineer to submit the report, and the latter consists of the time it takes to process the submitted report into an invoice. The renewed reporting process can be expected to simplify and shorten the time sheet lead time and it can be expected to also shorten the back office lead time. However, its effect on the latter cannot be estimated with certainty and likely varies from country to country due to the local differences in current processing. These local processing differences are further addressed in chapter 4.2.

In one of Kalmar's operative countries, Austria, an electronic reporting process has already been implemented. As part of their reporting process, the report data is first submitted to the company's intranet by the engineer where it is later picked up and transferred to SAP. This change has shortened Austria's lead times significantly in comparison to the operative country where the lead time is the longest. The improved lead time performance at Austria's sites seems to suggest that electronic reporting processing correlates with short lead times and improved performance. Due to Austria sites' improved lead time performance, the reporting process introduced in this thesis was originally intended to follow their example and present a similar reporting process option. However, during the research process it became clear that a similar intranet-compatible process is unsuitable for Finnish sites, because the established processes vary from one another.

On Finnish sites the engineers are personally responsible for moving the report data to SAP, whereas in global operations the data is often handled by other office personnel after the form has been submitted by an engineer. In global

operations it is therefore important to move the data quickly to a medium accessible by the office personnel, which in Austria's case is the Intranet. By contrast, in Finnish operations, moving the data to the company's intranet would only cause an additional, redundant step in an engineer's reporting process and force the data to be manually moved back and forth in different platforms.

In addition to simplifying the current process, upgrading the system and method of reporting indirectly helps the company deliver its strategy initiatives. In 2013 Kalmar published its main improvement initiatives, which included increasing profitability and operational efficiency (Kalmar's Annual Report 2013). Shortening the lead times helps the company improve its performance as invoices can be processed faster. Renewing the process also minimises the margin of human error as the data no longer needs to be manually typed and copied from one medium to the next, which is a common problem in manual organisational processes.

3 DESIGNING THE NEW REPORT FORM

This chapter presents a technical and visual solution to the reporting system. When planning a renewed reporting process, it is vital to consider available system options for the renewed report form, as the process is regulated by the technical requirements of the report's content. They are further limited by the form's visual requirements, which should be both visually compelling and follow Cargotec Corporation's visual guidelines.

3.1 Technical requirements

In order to create a fully functioning reporting process, the collection of technologies which are used need to be integrated with one another. The ways in which they can be integrated largely depend on the report's technical requirements, because they determine which integration options are possible. In general, system integration is a part of the comprehensive improvement of an organisation's processes (Tähtinen 2005, 35).

There are two methods in which computer systems can be integrated with one another: point-to-point integration, and centered integration (Oksanen 2010, 168). Despite their technical sounding names, their functions are rather easy to understand. Point-to-point integration means that two normally incompatible programs are made to directly function with one another without a separate third program to "translate" the incompatible information. Centered integration is the latter option: a third program is used as a middle-point through which all data goes through. For Kalmar, point-to-point integration was considered the better option due to its relatively low costs and because only two programs need to be integrated: the form's platform, and SAP. Centered integration options often allow translation between several programs, and are therefore a worth considering if several platforms need to be connected, but this integration option usually needs to be customised which naturally adds to the costs.

A large reason as to why Kalmar's reporting process has not been modernised before is that it is challenging to maintain all of the report's functions intact in the process. SAP compatibility, numeric and written interactive fields, as well as offline function were all considered important attributes of the new reporting system, but having such strict feature requirements likewise limits the possible system options. The next portion of this chapter focuses on discussing these feature requirements in more detail.

SAP compatibility is important for the new reporting process, because the data collected in the report is always in time transferred to SAP. SAP-compatibility was requested by all three of Kalmar's Development and Maintenance Managers who were involved with the renewal project planning (Josse, Vincent 27.3.2015, personal communication; Broere, Erik 27.3.2015, personal communication; Janeskari, Henry 28.4.2015, personal communication).

SAP -compatibility is also considered important, because in the current reporting process used by Finnish engineers, the data is first entered to an Excel document and then manually copied to SAP one field at a time by the engineer. In global operations the process has even more room for human mistakes and problems with accuracy, because the data is often written on a paper form by hand, without involving Excel. An electronic SAP-compatible reporting process would cut out the need for moving the data manually between Excel and SAP, as the data submittal would be automated. This would immediately remove one redundant step in the reporting process, shortening the lead time.

The new report has to be accessible and usable offline, as using the Internet during visits to the customer sites is experienced as difficult by the engineers due to the connection's slowness (Leino Mika 6.5.2015, personal communication; Kallio Pasi 6.5.2015, personal communication). Therefore, it was concluded that a form accessible via Microsoft Outlook's e-mail function would be the most suitable option for Kalmar, because the engineers are always able to access their e-mail folders, even without the Internet. E-mail compatibility was also requested by the commissioner (Kallioniemi, Kimmo 24.3.2015, personal com-

munication). Data sent by e-mail is then automatically uploaded into SAP when the computer next connects to the Internet.

3.2 SAP Interactive Forms by Adobe

In order to create a visually compelling report, the chosen software needs to allow for visual modification. Arguably the best and easiest way to create a fully modifiable interactive form, which is also usable offline and can be saved in between modifying, is to use Adobe Acrobat Reader (.PDF) as form platform.

Another advantage of an Adobe Acrobat Reader form is that it is not straining on the computer or tablet during use, which is a common problem when using more complicated programs or platforms. For instance, using SAP directly on a customer's site would be difficult due to it taking up a lot of memory to use. Thus it became a focal point of this thesis to research options to integrate interactive Adobe Acrobat forms with SAP. Due to the multiple types of data fields in the report, such as drop-down boxes, writing fields and automated fields, finding a suitable integration tool was a challenge.

During the research process it came to light that SAP and Adobe have co-created a tool which allows the user to design, fill and integrate forms into SAP. This tool is called SAP interactive forms by Adobe. SAP Interactive Forms by Adobe meets Kalmar's needs better than any option found during the research, and it has many advantages that help to simplify the process. These advantages are further examined in the next portion of this chapter.

SAP Interactive Forms by Adobe can be integrated into the company's own SAP workspace, so that the information is directly saved to the appropriate place. This integration option is called light integration, because it is not a completely automatic process, but instead requires user operations to work (Oksanen, 2010, 169). The user can also access ready-made forms which can be visually modified to suit the customer's basic requirements, or he can buy a license for a completely new form if the visual features and content fields need to be further personalised.

In Kalmar's case, a licensed and individualised form is preferable as the ready-made forms included in the program are too simple for the service report, which is to include several different types of information besides basic time sheet information, such as SAP codes, locations and information about the project's progress. The licensed form also permits more visual modifications, such as determining the font, colors and specified locations of objects and fields, which are important to the organisation due to their visual guidelines. The visual guidelines and the design of the report form are further addressed in chapter 3.3.

The interactive forms are accessible to the end user with a web browser, or they can be saved onto a computer and sent by e-mail using the "E-Mail Submit" button embedded in the form. This is advantageous as it allows for the form to be saved to a hard drive several times during the work day or work week.

Another advantage of this tool is, that because of its direct compatibility with SAP, it allows for drop-down lists to be created directly for SAP codes, thus removing the need for the engineers to memorise the SAP codes. The tool allows for users to later revisit the data in SAP and add further modifications, which is an important attribute when the engineers fill out further costs and project data to SAP during longer work projects.

The renewed reporting process based on using SAP Interactive Forms by Adobe as the form's platform is explained, in detail, in chapter 4.

3.3 Visual design

A visual representation of the report form was created to be used as a model for the outsourced report form. The visual outlook is important to the organisation, because Cargotec emphasises the use of its official visual identity guidelines, which are meant to strengthen the brand and to increase the feeling of unity within the organisation (Cargotec Press Release, 22.6.2009). Cargotec's visual guidelines is a comprehensive guide which determines the visual outlook of any material created for the company and its affiliate companies, including typogra-

phy, colors, logos, slogans and different rules of use for digital and printed material.

The guide was released to the use of personnel and advertising agencies in 2009, and prior to its launch Cargotec published a press release which featured their new visual identity guidelines in a prominent role as part of their new corporate branding strategy. According to the press release, the new visual identity guidelines were “aimed at strengthening the Cargotec name and its main strategic brands Hiab, Kalmar and MacGregor”. This includes using appropriate brand logos and the uniformly defined visual look in materials (Cargotec press release, 22.6.2009).

The official main colors of Cargotec are red, grey, white and black. These four colors have different functions, with Cargotec red most often used as a headline color and Cargotec black in the text body. Below are the Cargotec primary color definitions.



Image 1. Cargotec primary color palette (2014, Visual Identity Guidelines).

Cargotec red is used in the form’s frame and logo, whereas black is used in the form’s text body. The form also includes grey, but not the grey shade presented in the primary color palette. Cargotec additionally has 10 secondary colors,

which are used to highlight and compliment the main color palette, and the medium grey from this palette is used in the form's interactive text boxes. Below is an example of the Cargotec medium gray.

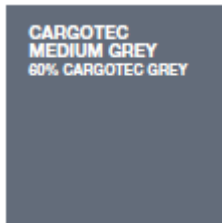


Image 2. Cargotec's secondary color palette's medium gray shade (2014, Visual identity Guidelines).

Typography is also an important part of the Cargotec brand. Arial font is used in all digital brand material templates, which include the electronic service report. Arial is used due to its close resemblance of Helvetica Neue, the official brand font used in marketing material. This is why the report form design only uses the Arial font in a selection of sizes.

In Cargotec's materials, a two-part Cargotec red frame is used to serve as an anchorage point for image, text and other graphic information. The frame is open and includes a left and a right hand frame. Out of these two frames, the left side (bottom) frame may vary in location depending on the size of the document. Below an example of the Cargotec frame in an A4 document.

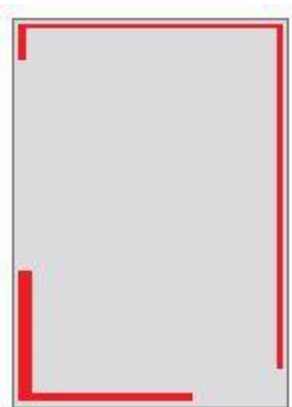


Image 3. An example of the Cargotec frame on a document (2014, Visual Identity Guidelines, Version 4.3.).

Kalmar Global has two official logos, a horizontal and a vertical one, which are recommended to be used over the generic Cargotec Corporation's elephant logo. The logos are often accompanied by a slogan, which is different for each company branch. Kalmar Global's slogan is "Making your every move count". Below is an example of the horizontal logo with the slogan, used in the new report form. The horizontal logo is the preferred logo in any printed material, with or without the slogan.



Image 4. Kalmar Global's preferred logo with slogan (2014, Visual identity Guidelines).

The report form's creation and integration will be outsourced, but the prototype will be used as model when creating the end product. Cargotec's visual identity guidelines have been strictly followed when creating the prototype.

A visual prototype representation of the report form can be found attached in appendix 1, along with specific details about its visual attribute choices. Its content mimics the current report form which is in use in Finland, except for some parts which were left redundant due to the lack of need for weekly and manual reporting. The form is supposed to serve as a model for the actual outsourced form, and therefore the current visual details may not be completely accurate, including the color shades and object distances. The visual prototype is designed for daily reporting instead of weekly reporting, which is the preferred method after the process' renewal. The renewed reporting process is further explained in the following chapter.

4 REPORTING PROCESSES EXPLAINED

This thesis concentrates mainly on the implementation and renewal of Kalmar's Finland sites' service reporting process, which is old-fashioned and no longer meets the company standards. This problem is not limited solely to Finnish processes, but is an international issue for the company at this point in time.

Because of the legal issues related to some of the aspects of the reporting process, along with local process variations, planning an international reporting process was impossible at this time. The legal issues include, for instance, the country-specific differences in legislation regarding the validity of digital or electronic signatures, as signatures are currently collected from customers in several countries. Issues and suggestions regarding the global implementation of the reporting process are further addressed in chapter 4.2.

On Finland's sites, an Excel sheet is currently used by an engineer to mark down his working hours, project information and locations. The report sheet serves two functions: the first function is customer billing, where a customer is billed based on the costs of the project, and the second function is salary payment: an engineer's wages are calculated according to the data regarding his working hours and travel costs.

The customer billing takes place after the entire work project has been completed. Processing the report data into an invoice takes a long time, because the data entered into SAP may be revisited several times in order to enter additional costs which can arise for example due to a need for spare parts. However, more often than not the process could be completed without having to order spare parts, which means that the lead times in general can be expected to reduce significantly. The customer billing is the responsibility of the billing department, which will create the invoice after the engineer has marked the project finished in the SAP workflow. The engineer's salary payment is not dependent on whether a project is finished or not.

In Finland's sites, an engineer is responsible for entering the service report's information into SAP himself. He is also responsible for ordering any required spare parts and equipment, which means that the SAP workspace may be visited and modified several times. Currently the engineers only spend approximately one work day per week in the office and during this time they use at least half a day or more entering the week's worth of service reports into SAP. Changing the reporting into a daily process dispenses the work load more evenly throughout the week. This can also be expected to positively impact the processing in countries where office personnel are responsible for entering the data to SAP, as they can process the reports daily instead of on a weekly or bi-weekly basis.

During the work project the SAP workflow is in PLAN mode until the project has ended on the engineer's part and he changes the workflow into WDON mode, which signals to the billing team that there will be no more extra costs to be billed from the customer. After this the billing team will charge the customer and the process ends. However, the wages of the engineer can be paid to him even if the workflow is still in PLAN mode as wages are based on his working hours and travel expenses rather than the combined project costs.

After the report data has been entered into SAP, the working hours need to be confirmed by the engineer's manager before the time sheet can be sent to the billing department. This is done by printing out the Excel sheet and sending a signed copy of the report to the billing. In the new reporting process, Excel is no longer needed and due to the manual signature not being supported by the electronic system, an engineer forwards the report to his superior who then signs it before forwarding it to the billing team.

In the new electronic reporting system, the engineer is able to complete the entire reporting process in just three steps. These three steps consist of filling the report and sending it immediately to SAP and to the manager, making the appropriate changes to the SAP workflow and finally marking the project finished.

Other parties such as the managers and the billing team will act based on the engineer's reporting status. The manager will receive a copy of the service report by e-mail, which he will sign and forward to the billing team. The method of signing or approving a report depends on the billing team's instructions, but the signature may be collected digitally, or alternatively the service report can be printed out and manually signed by the manager, before it is sent to the billing department by e-mail, post or scan. Below is an illustration of the entire renewed reporting process addressing both the customer invoicing process and the engineer's salary process using SAP Interactive Forms by Adobe.

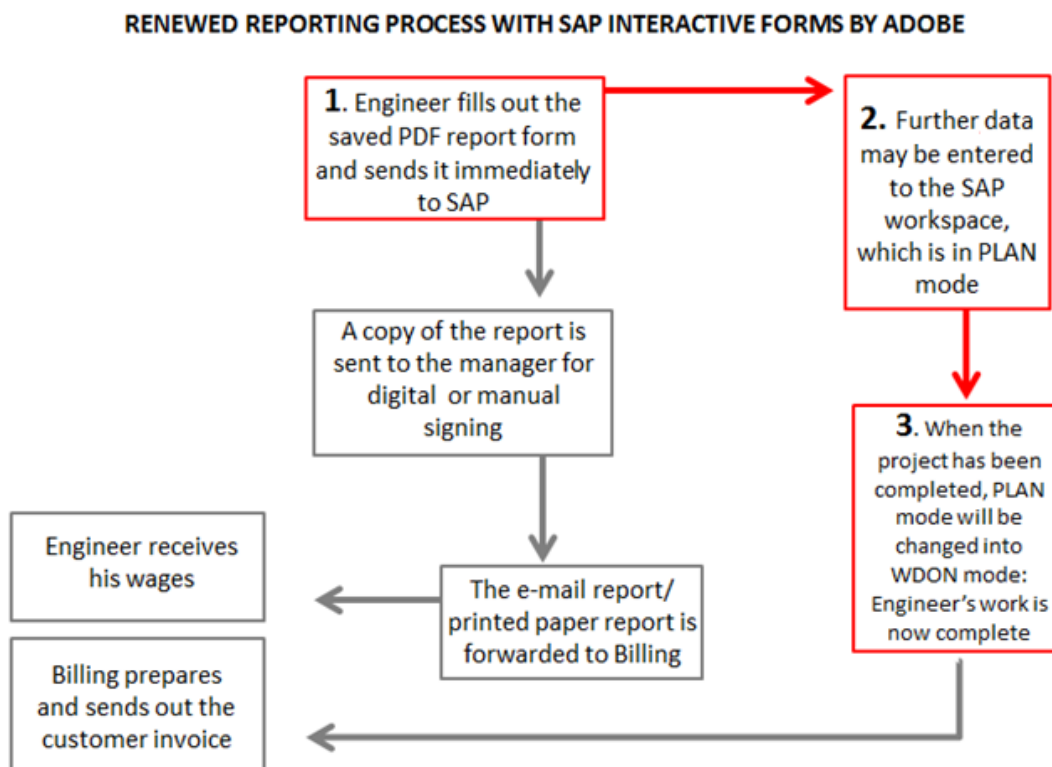


Image 5. Visual representation of renewed reporting process using SAP Interactive forms by Adobe.

In Image 5, the numbered red boxes indicate the engineer's project process, which now only includes three steps. The grey boxes indicate the rest of the reporting process, which involves the engineer's manager and the personnel responsible for billing. This reporting process has shortened the overall lead

times and has simplified the process by removing redundant steps. This makes the process more efficient, cost effective and less prone to inaccuracies.

4.1 Process renewal issues

Despite the potential opportunities, implementation of electronic processes may be difficult to plan due to complex system requirements, and poor change leadership creates room for conflict and failure (Hiatt & Creasey 2003, 24). There are many possible practical issues during the implementation phase of the renewed reporting process. Although it can be expected that the lead times will reduce as a result of introducing the new electronic reporting process, the new process may also face challenges which may diminish its functionality. An outlay of these challenges will be presented in this chapter.

One potential issue is that even though the reporting process is simplified by the renewed system, the billing cannot take place until an engineer has visited SAP and ended the project by changing the workflow's mode into WDON. Poor Internet connection could delay this, meaning that long projects in conditions where Internet speed is not optimal could cause the lead time to remain long even despite the new electronic system. In this scenario, the only advantage of the new system is that it simplifies the rest of the process. Extended lead times due to poor Internet connection could be prevented by arranging for a faster portable Internet connection to the engineers, who currently work with a 1 Mbit connection (Leino, Mika 6.5.2015, personal communication).

Also the engineers' commitment to the change plays a part in the successful implementation process. For instance, changing from weekly reporting to daily reporting might be considered too time consuming by the users if the new system is unable to offer a quick enough reporting process. To help the engineers realise the potential of the new reporting process, the communication and training during the implementation phase are important. These subjects will be further addressed in chapter 5.

Despite these practical issues, the electronic service reporting process is likely to positively impact the working schedule of the maintenance personnel and enable them to concentrate on other aspects of their job during their office visit, which are concrete benefits that the engineers might appreciate if these advantages are conveyed to them clearly.

4.2 Global issues

In the near future the reporting processes will be renewed in many, if not all, of Kalmar's operative countries. Most notably the sites in Belgium and the Netherlands are planning on upgrading to electronic reporting processes in the near future. The electronic reporting process introduced in this thesis cannot be directly applied to many of Kalmar's operative countries, including Belgium and the Netherlands. This is because the processes vary from country to country due to the current lack of global reporting guidelines, and the individual processes have not yet been mapped comprehensively enough to allow the planning of a functional global process.

When comparing the current reporting processes of Finnish, Belgian and Dutch sites, several processing differences instantly become noticeable. The Finnish process seems not to be standard on a global scale as the reporting processes are quite similar to one another in Belgium and the Netherlands, but differ from the Finnish process. However, this assumption remains inconclusive until the processes in other countries are charted in detail.

In Belgium and the Netherlands, an important part of the reporting process is collecting the customer's signature to the report form, which acts as a legal validation for the working hours and project information stated by the engineers. Finnish engineers also have a larger degree of autonomy over submitting the report data to SAP than engineers in Belgium and in the Netherlands, where local office personnel submit the report data to SAP instead of the engineers. Another remarkable difference is the actual content of the report form, which varies from country to country, and is dependent on country-specific legal re-

quirements. For instance overtime, night work, travel expense compensation and other benefits vary globally, and the local report forms reflect these variations.

Collecting the customer signature is a common practice in Kalmar's global operations, as it is used as a legal validation for the report data. A copy of the report is left with the customer after collecting the signature. Engineers working for Finnish sites do not collect a customer signature nor do they leave a copy of the report to the customer; therefore it can be concluded that the Finnish report form does not hold a similar status as a legal document of agreement between the company and the customer as it does in many of Kalmar's other countries of operation. It also means that the reporting process introduced in this thesis will need to be modified to suit the varying needs of global sites.

In countries where the customer signature is collected from the customer, equipment upgrades may be needed to allow for digital or electronic signing. The customer signature could be collected, among other options, by investing in tablet computers to replace the current laptops. In global operations this investment would enable the collection of electronic signatures from the customer directly to the computer by utilizing the touch screen and appropriate programs. However, graphics such as electronic signatures, cannot be transferred directly to SAP. Instead, the signature should be collected to the Adobe Acrobat Reader form but not transferred to SAP along with rest of the data. The report bearing the signature could then be saved as a separate document, while the rest of the process can follow the process introduced for Finnish operations.

A copy of the service report can also be sent to the customer for digital signing. Acceptance is digitally verified by a variety of methods, for example by logging in with bank account details or other personal passwords to "sign" for a document. While this signing method is recognized as a legal form of validation in many countries, this option might defeat the purpose of shortening the lead times, by allowing the customer to dictate when the document will be sent for further processing.

A problem in need of addressing is the existence of country-specific laws which may not recognize electronic or other digital signatures as a valid form of legalization due to ease of fraudulent use of the signatures. This is especially so in countries outside Europe, where European legislation regarding the validity of electronic signature validity is not followed (European commission, 24.3.2015).

Another issue that needs to be resolved is the local legislation regarding the monetary compensation for work. For instance, evening work is specified in the Finnish report form, because the compensation for such work differs from the compensation of work conducted during regular working hours. This is not likely so in all of Kalmar's operative countries. Likewise the pre-existing differences in processing can cause challenges for the global renewal, such as if the engineers or other office personnel submit the data to SAP. Therefore a perfectly uniform global process is likely not a realistic goal, as some variations will always remain in the form's content and processing.

At the very least, linguistic and legal differences determine that the use of multiple reporting forms is necessary even if the basic process became more uniform. A uniform global process would require extensive changes in the basic reporting procedures of many, if not all, of Kalmar's global sites, and an outsourced, centered integration option remains the only plausible option in this case. This can be expected to significantly increase the costs of the implementation, but it would also allow for more freedom when determining the system functions and integration.

The abovementioned processing differences probably only represent a fraction of all of the variations in Kalmar's over 30 operational countries, which is why the current processes need to be comprehensively researched before implementing a global processing system. Country-specific legal requirements, process differences and parties currently involved in the reporting process all need to be considered before a global reporting process is introduced to minimize the risk of implementation problems. This requires extensive ground work and cooperation from local sites.

5 IMPLEMENTATION OF THE NEW REPORTING PROCESS

This chapter aims to introduce a practical communication and change management plan for the implementation phase of launching the new reporting process. The plan will rely on current theories of implementation of change in a corporate environment. The goal is to help the personnel adapt to the change and minimize change resistance, which affects the outcome of the implementation process. Their reaction to the change is important in ensuring that the new reporting system becomes an established part of the working routine.

5.1 Managing the implementation phase

Over 70 % of all organisational change initiatives fail (Oksanen 2010, 18). This is often due to lack of anticipatory planning of all aspects of the implementation strategy, and due to putting too much emphasis on changing the behavioral patterns of employees. Instead of focusing on their behavior, it is important to take into account the feelings, thoughts and beliefs which affect the behavior of employees in the first place (The McKinsey Quarterly 2009, 108).

The employees' reaction, understanding and support to the change are important factors in the success of the change initiative, but they are often overlooked, and as a result, the change is rushed through and may become a strain on the personnel as well as the managers (Oksanen 2010, 18). The worst outcome of a poorly executed change initiative is its failure (Forbes 2011), and the inevitable return to old ineffective processes.

A change management plan is often used to direct the implementation process (Forbes 2011). It consists of a set of actions considered important by managers, with the goal of establishing a new process or organisational change into a permanent work routine or process. The implementation can be considered a success based on three outcomes: if after two years 4/5 of users are frequently

using it, if the organisation is dependent on the system, and if the system is an important part of the organisation's data management (Oksanen 2010, 29). In other words, the implementation process does not end after the launch, but needs to be monitored and supported long after the new process has seemingly become a permanent part of the working routine of the users.

For Kalmar, the goal at the initialisation phase is to help the engineers and other users adjust to the upcoming change in their working routines. The efforts to make adjustment easier should begin before the new process is taken into use, ideally months in advance when the users are first informed of the change. It is vital that the users feel that the change is beneficial both to themselves and to the company, and that their attitudes matter (The Copenhagen Institute for Futures Studies, 2006). Kalmar's management strategy, as introduced later in chapter 5.3., therefore puts a lot of emphasis on communication and support during the transitional phase.

One of the most prolific change management theorists, John Kotter, has theorized that there are eight steps in change management, all of which are meant to engage the organisation to the transition. The steps are increasing urgency, building guiding coalition, forming strategic vision and initiatives, enlisting a volunteer army, enabling action by removing barriers, generating short term wins, sustaining acceleration and instituting change (Kotter International, 2015). His theory is perhaps the most used and detailed of change management theories (Mattila 2011, 132).

Kotter is not the only management theorist to put emphasis on the personnel's motivations and reaction. According to Timothy J. Galpin, managers need to be aware of the five key factors for successful organisational change: understanding and communicating the changes to employees, setting goals, measuring performance, providing feedback and coaching and establishing rewards and recognition (Galpin 1996, 2). This theory is explored more in detail in chapter 5.3.

It is worthwhile to address personnel training as a separate part of managing the implementation phase because successful training acts as the spine of any successful implementation (Oksanen 2010, 258). However, many change management theorists do not directly address personnel training, perhaps because most of the change management theories concentrate on management techniques applicable in macro-scale changes (Honkanen 2006, 134; Mattila 2011, 242).

It can be concluded, that the change management plan should, at its core, include the tools for motivating the personnel and for engaging them into the change process. Arranging for suitable and comprehensive training for the users is also vital due to the change involving acquisition of new technical skills, and is further emphasized by the solitary nature of the engineers' work which prevents them from receiving direct peer support. When these social factors have been correctly taken into consideration, the change initiative has a bigger chance of succeeding. Chapter 5.2. further explores the role of social factors in the failure of a change initiatives.

5.2 Change resistance as opportunity and threat to change

While change initiatives may occasionally fail due to lack of funding or because of technical difficulties, a common problem leading to failure is change resistance, which is at the heart of all change (Harvey & Iroyles 2010, 3). Change resistance leading to failure often has roots in chaotic management and poor communication (Mattila 2011, 26), which cause the personnel to lose trust in the motives behind the change (Mattila 2011, 112-113). However, change can be met with resistance even without a direct reason or fault in the change management process (Hiatt & Creasey 2003, 20).

Despite its rather aggressive name, change resistance is actually most often passive or silent. It is also a perfectly natural part of any change process (Harvey & Iroyles 2010, 5). According to a study by Thomas R. Harvey, the co-author of "Resistance to change: A guide to harnessing its positive power", 55%

percent of his study subjects resisted change silently by initially agreeing to it, but by later trying to sabotage the change process (Harvey & Iroyles 2010, 6). He calls this form of passive change resistance “parking lot resistance”, because according to his experience, people wait until they are out of the official space to start sabotaging the ideas.

Completely silent change resistance often means that the person is indifferent to the change, and can be an alarming sign that the person is not committed to the company (Mattila 2011, 25). Change resistance has increased in the past years due to value changes in the work environment, where individual employees are expected make decisions and take responsibility for their work (Hiatt & Creasey 2003, 26).

Change resistance is not a problem exclusive to the grassroots personnel. It potentially affects everyone involved with the change, from top management to middle management to consulting parties and finally to grassroots personnel (Mattila 2011, 20-21). In fact, the resistance is most prevalent in upper management where the change may interfere with their achieved rights (Mattila 2011, 20). Basically anyone whose work is affected by the change and its implementation can take part in passive or active resistance

The reason for the prevalence of resistance to change could be that any change in routines which takes up a person’s time is considered initially negative if a person receives no direct personal benefits. Another explanation is simply that all change is loss, as suggested by authors Thomas R. Harvey and Elizabeth A. Iroyles in their book “Resistance to change: A guide to harness its positive power” and therefore rebellion towards it is inevitable (Harvey & Iroyles 2010, 25). The bigger the routine adjustment or personal inconvenience, the more prevalent change resistance is (Mattila 2011, 20). In order to maintain the resistance at acceptable levels which do not cause harm for the project’s realization, the basic motives behind the negative reaction need to be examined. These motives are addressed in the next portion of this chapter.

Change resistance is strongly linked with failed attempts to motivate and properly communicate with the personnel about the change. Employees are often blamed for the resistance and initiative failure (Mattila 2011, 20), without any consideration to why resistance happens and how it can be diminished or used to improve the processes. On an organisational level, the true reason for change resistance often lies in poor leadership, which has not emphasized the correct sense of urgency and need for the change, has failed to communicate the need for the change, has given up on establishing the change properly, or has concentrated on dealing with change resistance in the wrong contexts (Mattila 2011, 26-27).

On an individual level, there are three main reasons for change resistance under which all variants fall, and each require a different style of approach to be conquered (Mattila 2011, 20). Below is a pyramid including the three stages of resistance, and how these stages should be addressed.

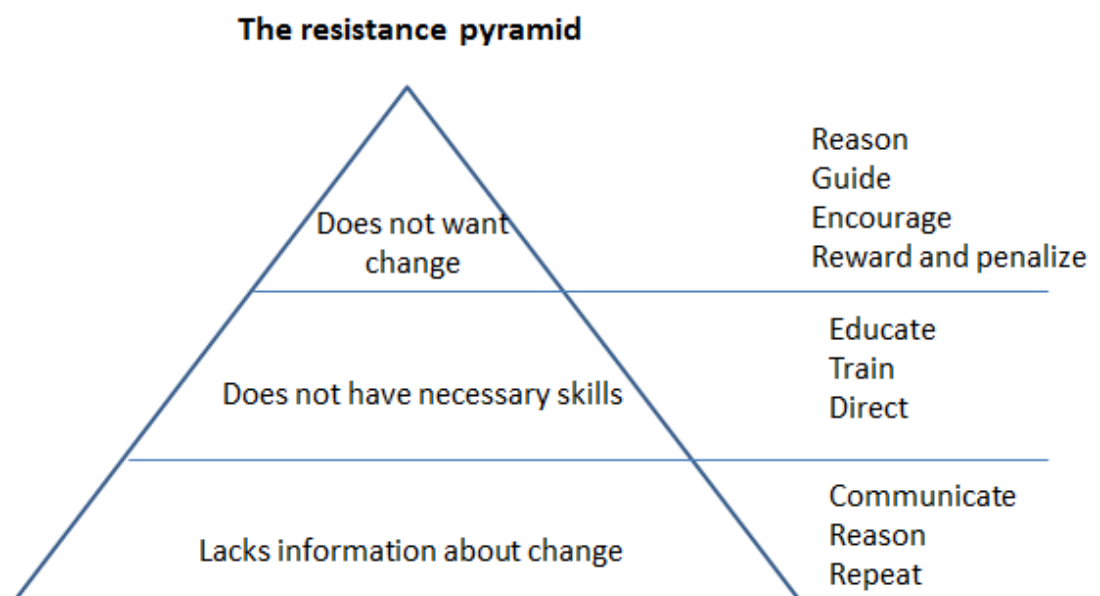


Image 6. The three motivations behind change resistance, and their solutions (adapted from Galpin T.J., *The human side of change*, 1996, and Mattila P., *Johdettu muutos – Avaimet organisaation hallittuun uudistumiseen*, 2011)

Often the change resistance is not down to pre-planned opinions, but rather a way for the individual to react to an unexpected and new situation. Due to the involuntary reactive nature of the resistance, change resistance is sometimes referred to as defense practices (Mattila 2011, 20-23). Change resistance is nearly always based in emotions, and therefore it cannot be conquered rationally (Harvey & Iroyles 2010, 4). Because of this, direct plans of attack do not work against resistance; instead, it is best conquered by resilient and systematic communication between different units involved in the change, and by engaging the personnel personally to the project.

At Kalmar's Finnish sites, the need for the renewed reporting process is well recognized by the engineers. In fact, the change is welcomed according to the engineers who were contacted with regards to the process change. However, the change is welcome with the condition that it actually makes the process easier (Leino, Mika 6.5.2015, personal communication). This is a key point in overcoming potential change resistance: the personnel who are expected to give their resources to the learning process need to properly understand why they personally benefit from the change. In order to minimize change resistance, the bottom of the Resistance pyramid must be applied: the change needs to be justified by *communicating* about the change's benefits, the users need to be *reasoned* with and the benefits need to be *repeated*.

Not all change resistance is negative, even though it is often experienced as such by change leaders. Resistance is a natural reaction to the impending extra work and trouble change causes (Harvey & Iroyles 2010, 6), and employees do not necessarily have bad intentions even if they resist actively. On the contrary, active criticism usually means personal commitment and desire for positive change while silent resistance often occurs when a person is looking for a way out of the company and no longer cares enough to actively resist (Mattila 2011, 25). Therefore resistance and criticism should be welcomed as a potential positive indication of the personnel's commitment.

Resistance can lead to positive results, because the management can use open criticism to improve their processes and to further engage their employees. Ig-

noring criticism causes problems for the company later on. By taking the criticism offered by employees into consideration, the company can also improve relations between different organisational levels and units as well as make communication easier in the future (Mattila 2011, 25-26). In order to change passive resistance into open criticism, the organisation needs to enable free internal communication on both sides.

In conclusion, change resistance may be fatal to the establishment of new processes, but it also offers the chance to further improve the organisation's functions. The criticism and information provided by personnel need to be taken into consideration, and accepted as a part of any change initiative. In Kalmar's case, criticism should be taken especially seriously because the process relies on the input and commitment of independently working units, which are best able to convey the true functionality of the renewed process.

5.3 Key actions for successful change management at Kalmar

A clear plan of action is crucial for successful initialisation, and makes it easier to control the progression of the implementation process. Communication, personnel training and evaluation of performance after initialisation are key points of this plan of action.

Limiting the theories which could be used as basis for planning the change management is challenging, because they all make good points, each accentuating slightly different methods and points of view. Renewing Kalmar's reporting process is not a very large organisational change, although it has a tangible impact on the teams and individuals who need to change their working routine to adapt to the new process. Due to the relatively small scale of personnel who are affected by the change, macro-level theories are not applied directly to this change management plan.

After careful deliberation with internal communication and the end users in mind, the five key actions as defined by Timothy J. Galpin were chosen as the main basis for Kalmar's service reporting process' change management plan.

His theory is suitable because it focuses on the social aspects of the change process, instead of cost and behavior -based theories which are common in the organisational change management literature (Galpin 1996, 2) Galpin's theory consists of five key actions, which are:

1. Understanding and communicating the changes to the employees
2. Setting goals
3. Measuring performance
4. Providing feedback and coaching
5. Establishing rewards and recognition

(Galpin 1996, 129).

Understanding and communicating the changes to the employees is the first step of a successful change management plan, and perhaps one of the most important ones (Harvard Business School Press 2005). Internal communications systematically receive negative feedback in employee satisfaction surveys, and it is often at its worst during organisational changes. The lack of communication causes the employees to lose trust, leading to complications within the company later on (Mattila 2011, 112-113).

Because Kalmar's engineers follow their own working schedule and are often not present at the office, it is challenging to come up with a suitable solution for effective communication. Because the change has a tangible impact on the engineers' working routine, communicating with them through several mediums is imperative.

According to information received from the engineers and their managers, information and news are usually shared via e-mail and company intranet sites. This was also considered a suitable medium for the initial communication by all of the consulted parties directly involved with the current process, but starting the communication process early was emphasised by the engineers (Janeskari, Henry 28.4.2015, personal communication; Leino, Mika 6.5.2015, personal communication; Kallio, Pasi 6.5.2015, personal communication).

Also author Pekka Mattila strongly recommends the use of Intranet as a medium of forwarding information, but stresses the importance of using several different methods of communication, during a relatively long period of time (Mattila 2011, 188;190). The reason why early communication was considered extremely important by the engineers is that in the past important information had been conveyed so late that engineers had missed meetings due to being in different cities (Leino, Mika 6.5.2015, personal communication). Therefore the need for long-term communication is especially important in Kalmar's case, because the engineers need to be given enough time to arrange their schedule to make room for productive learning.

While the first step could be to inform the personnel about the change via e-mail and the Intranet site, it is important to invite the users to a face to face meeting where the change will be discussed further. This meeting is often called a kick-off meeting, and its purpose is to begin the actual implementation process by introducing the project and detailed information about the implementation process (Mattila 2011, 238).

The communication should start off by explaining why the change is happening, when it takes place, what its goals are, how it affects the employee's working routines, and why it's beneficial. This should be done to an extent already in the initial e-mail, and the information should be expanded during the kick-off meeting. For best impact, the listed benefits should include not only the benefits for the organisation, but also how the change benefits customers, teams and individuals (The McKinsey Quarterly 2009, 104). Also general contact information should be given: who the engineers can contact regarding the change, and where to submit feedback. The importance of their opinions should be made clear right from the start, to engage them in the project and to encourage free communication.

The kick-off meeting should ideally include all of the personnel who are in contact with the change, including also the billing team and the management, and allow the personnel to freely express their questions and concerns about the

change. Because the engineers are located across the country, the kick-off meeting could also be held on separate occasions in smaller groups.

The second step is setting goals. Communicating about goals and reporting on progress is motivating for the personnel (Smith & Mounter 2008, 4), and it also clarifies to the personnel what is expected of them and when. At this stage, the personnel should be informed when they should have the necessary skills to start permanently using the new reporting process. This helps them set themselves individual learning goals.

The third step, evaluating performance, means that the performance should be measured against numeric goals (Galpin 1996, 131). For instance, if this process were related to sales, increased revenue could be considered an indicator of performance. However, in Kalmar's case the number of personnel who use the new system can be considered a performance level indicator, as would the length of lead times and invoice processing after the implementation.

Outside of the key user group, also the performance of other users should be evaluated: for instance, how long does it take the managers to sign for the service report and forward it to billing? And how long does it take for the billing department to process the report into an invoice after receiving it? If performance is not within acceptable and expected limits, it might indicate that the process is not functioning for one or several user groups and further action should be taken to improve the process.

The fourth step, providing feedback and coaching, takes place both during and after the initial implementation phase, and it works both ways: the users should be able to give feedback to the managers and leaders, and the users should also receive it. At the beginning, an appointed person should always be available for trouble-shooting and coaching to help with the problems the users might experience with the system or its use. A person available for telephone consulting was requested by an engineer (Leino, Mika 6.5.2015, personal communication), which is a suitable method of coaching especially considering the varying working locations of users which prevents them from receiving peer support.

To encourage feedback both on the technical aspects and the social aspects of the new reporting process, it is advisable that feedback forms are given to the personnel for filling. Also a technical issue reporting form should be given to the personnel right from the start. This form is important in order to locate and correct potential system issues.

The final key step is rewarding the users and giving them recognition for their efforts. This can be either a direct reward, such as a recreational day for the engineers, or indirect rewarding by giving praise, informing the users' of the process' success and their role in it, and by forwarding the positive results to top management (Galpin 1996, 133). To increase peer support and communication between the engineers, a recreational day could be beneficial in Kalmar's case.

A separate but important part of the implementation process is training the personnel. Training is usually not directly addressed in theories regarding change management and implementation processes, but rather seems to fall under the general category of communication. Nevertheless, successful training acts as the spine of any successful implementation (Oksanen 2010, 258).

If the personnel are not properly trained to use the new reporting process, the implementation has failed because the personnel naturally cannot give up the old processes. Proper training is especially important for Kalmar's engineers, because they work independently and out of office, which means that if they experience problems during their work trip, they are unable to receive direct peer support and guidance. During training planning, it should not be forgotten that along with the engineers, also the billing personnel and managers need to be trained in the use of the new reporting system, since it affects also their working routines.

The goal of personnel training is to allow the trainee to adopt as much skills, knowledge and competency for a specific task as possible within a short time limit (Johnson-Arnold 2010, 1). Training design in its most basic form separates the planning of training into five sections, which are: analyze, design, develop, implement and evaluate, commonly referred to as the ADDIE model (Branch

2009,3; Koochang & Harman 2007, 360). While the ADDIE model is usually employed by professional instructional designers (Tony Bates 2011), the model is a useful tool for organisational training even if the instructor is not a professional trainer. Its principles are particularly useful in digital distance courses (Tony Bates 2011), which makes it useful for Kalmar's purpose if such training methods are employed.

It should be noted, that the steps as presented in the ADDIE model imply that training does not end after the training materials have been forwarded to the personnel, but instead the learning process needs to be evaluated after the actual training has taken place, meaning that continuous support and performance evaluation is important. This echoes the five key actions for change management by Galpin presented earlier, which also emphasises performance evaluation after the initialisation process.

Kalmar's Tampere site employs an IT specialist, who is usually in charge of the technical training, and has previously trained Kalmar's engineers. However, because the instructor needs to be able to superiorly use the program (Oksanen 2010, 259), it might be worthwhile to arrange for the outsourced company which creates the report form to also provide some additional training.

Due to the solitary nature of the engineers' work, several types of training should be considered in order to support their skills. Face-to-face training arranged at Finland's Tampere headquarters was suggested by an engineer consulted on the subject (Kallio, Pasi 6.5.2015, personal communication), but several other training mediums should also be considered.

For instance, a short training video including a step-by-step simulation of the entire process could be advantageous, as the engineers could consult this video material on the road if necessary. E-learning, where the training material is posted into the intranet or sent by e-mail, is also worthwhile to consider especially if some engineers are not able to attend the training. However, social meetings and training should be encouraged to diminish the feeling of alienation prevalent with learning using e-materials only (Alamäki & Luukkonen 2002, 60).

In summary, the successfulness of the implementation process depends largely on social factors such as open, early communication, diverse training mediums and taking advantage of the criticism and feedback given by personnel. Failure to manage the social aspects of the implementation may result in severe issues and failure of the entire change initiation. A clear plan of action allows for the anticipation of potential issues and makes it easier for personnel to adjust to change.

6 CONCLUDING REMARKS

This thesis has aimed to present a functional plan for the implementation of an electronic service reporting process for the use of Kalmar's Finnish sites. The result of this thesis was a renewed reporting process plan, and a visual suggestion for the report form. Propositions for managing the social aspects of the change process were also included in the thesis because of their important role in the successfulness of change initiatives.

Planning a suitable alternative for the reporting process was a challenge, exacerbated by the necessary change in the focus of the thesis during the researching of current reporting processes. Originally this thesis was intended to present a functional plan for an electronic global reporting process; however, after discovering the local variations in current processing, the focus was limited to Finnish sites only. Nevertheless, because of the plans for global processing renewal in the near future, also global aspects were continuously explored and suggestions for the improvement and standardization of the global processes were made.

The current reporting process involves many units, levels, and standpoints, which made the comprehensive perception of the actual needs somewhat difficult. Nearly every day during the research and writing process some new piece of information came to light, which further either clarified the current system and renewal needs, or challenged assumptions made earlier. The renewed reporting system, and the process which follows its technical allowance, could have been planned in several ways which made settling on just one system option even more challenging, even for just Finland's purposes.

Despite the many potential solutions discovered during the research process, the system option proposed in this thesis meets the needs of Finnish sites in simplicity, estimated cost-effectiveness and functionality. However, if the goal is to create a uniform global process in the years to come, all the local processes will again need to be changed to make room for a new process. This includes

the Finnish reporting process. This raises the question if renewing the Finnish process at this point in time is sensible, which depends largely on whether or not the global process can be executed within the next few years. Because of the need for executing extensive ground work in order to determine the global processing schedule and potential options, this cannot be estimated with certainty at this point in time.

In conclusion, modernising organisational processes is beneficial because it helps an organisation to maintain and improve their competence, while simplifying existing processes and cutting costs by shortening lead times. Open communication within the organisation during the transition period simultaneously engages personnel to the company and allows for further improvement of processes. The failure of the change implementation can be prevented by carefully planning the initialization process and internal communication.

This thesis can be used as a functional point of reference for Kalmar in the process of service reporting renewal, whether in Finland or globally. Finding a solution that satisfies the needs and legal requirements of sites in over 30 countries is not going to be an easy task, but this thesis can be used as a stepping stone for understanding and improving the current Finnish operations, while also helping with discovering the issues and potential involved with the renewal of the service reporting process on a global scale.

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Visual prototype of electronic report form

Daily service report

Week:

Name:

ID: Department:


Evening shift Hotel accommodation

On call duty Additional person

Own car

Company car

Date				
Work number				
Work description				
Customer				
City				
Time of arrival				
Time of departure				
Working hours				
Km driven				



KALMAR
Making your every move count

Finland's current service report

Viikkotyöraportti/matkalasku			VIIKKO		13	2015					
Nimi: NN			Henkilönro			Osasto		????			
ILTAVUOROVIIKKO (klo 14 - 22)			X	Kalmar auto		Hotellimajoitus					
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Pe	2088	Talviloma			8,00						
27.3											
					Työtunnit->	8,00	Matkatunnit->				
			OMAN AUTON KILOMETRIT YHT:								
Lisäselvityksiä:											
PVM	Matkustajan allekirjoitus		PVM	Hyväksyn matkaselostuksen ja kustannukset							
PVM	Matkakorvaus kirjattu matkamiesjärjestelmään		PVM	Tunnit kirjattu palkanmaksujärjestelmään							