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Transition to paperless forwarding at Valmet Automotive

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Abstract

The objective for this thesis was to determine the possibilities for electronic forwarding process at Valmet Automotive Uusikaupunki. The purpose was to map out whether or not it would be possible to make the transition in the current situation or what changes should be done in order for the implementation to be successful.

The research started by gathering information from work environment in the beginning of the year 2020, as well as from the internet, articles, and studies. Meetings were held at work environment during June-July 2020 to discuss the main issues in this matter. Qualitative methods were used in data collection.

The result of this thesis was that Valmet Automotive definitely has the abilities and readiness to take over paperless processes. There were no legislative barriers which would prevent the archiving of documents in electronic form. The only document that must be retained in its original form is ATR customs document.

In conclusion, completely paperless processes were not a realistic goal for the organization at the moment but should definitely be further explored for future references. Valmet Automotive should introduce an Electronic Document Management System for forwarding documents, which would be a step ahead in the inevitable transition to paperless processes.

Key words
Forwarding, logistics, EDMS, EDI, paperless, electronic, documentation

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1 INTRODUCTION

The case company of this thesis is Valmet Automotive, a large-scale technology company located in Uusikaupunki with over 4,500 employees worldwide. Since founded in 1968, Valmet Automotive has been manufacturing a variety of cars, until 2013 manufacturing of the Mercedes Benz A-class begun in Uusikaupunki and in 2017, the Mercedes Benz GLC was added to manufacturing. (Website of Valmet Automotive.)

The purpose of this thesis is to examine and evaluate the possibilities of electronic forwarding processes at Valmet Automotive. The currently existing systems must be evaluated, and it must be thoroughly examined whether it is possible to transit into paperless forwarding at Valmet Automotive. The goods receiving process must be completely understood in order to determine the needed changes in systems and procedures.

The boundaries of this thesis are set in the beginning and a conceptual frame of reference introduces the main concepts and sub-concepts handled in this thesis. Electronic forwarding is discussed in general, and new opportunities such as blockchain is briefly introduced as well. The security concerns and legislative liabilities are an important part of the transition and set certain boundaries for the process.

This thesis discusses the issues in the current process as well as the challenges for the organization which are occurring now and would possibly have an effect on the new process if not considered beforehand. The possible issues that might occur during the implementation are addressed and suggestions for the actual implementation are made.

2 PROBLEM SETTING AND CONCEPTUAL FRAME OF REFERENCE

Problem setting defines the big question this thesis is trying to answer, whereas research objectives are the smaller questions which are based on the big question. Conceptual frame of reference discussed in chapter 2.3. illustrates the relationships between the concepts that are handled in this thesis. (Pirkanaho, 2020.)

2.1 Research problem and research objectives

The purpose of this project is to clarify the possibilities of Valmet Automotive to proceed towards paperless forwarding. I have worked at Valmet Automotive forwarding office since May 2019 and have become familiar with the paperwork included in the forwarding processes. This thesis will benefit Valmet Automotive greatly in decision-making concerning electronic documentation. The expected outcome of this bachelor's thesis is a process description of how Valmet Automotive could move on to paperless forwarding, and what are the main concerns and benefits in this matter.

The question that needs to be answered is whether it is possible to move on to completely paperless goods receiving process. The research problem is partly legislation and whether it has some restrictions that affect the project and its execution concerning preserving the documents. Firstly, the legislation must be examined thoroughly, and the freight carriers and suppliers must be considered as well. The whole process must be able to operate electronically, which means the other parties must be willing to co-operate.

Other question in hand is how Valmet Automotive can ensure the validity of data coming from the suppliers. The mistakes in ASN's, (Advanced Shipment Note) which contain information such as supplier number, part numbers, quantities, dispatch note number, pick up date and transport unit number, coming from suppliers has a direct effect on the process and causes issues by creating more work, misunderstandings and

false receiving's of parts. (Tuominen, 2019.) For the process to become completely electronic, the issues with ASN's must be carefully investigated first.

2.2 Boundaries of the thesis

This project will focus on the goods receiving process only. Other processes linked to forwarding (such as internal logistics processes) are not discussed in this thesis. This is because the transfer to paperless forwarding is done gradually to give everyone in the organization enough time to adapt to the new procedures and to make the implementation smoother. This thesis will partly discuss general forwarding processes as they are linked to goods receiving processes, but the primary focus will be in electronic goods receiving processes.

2.3 Conceptual frame of reference

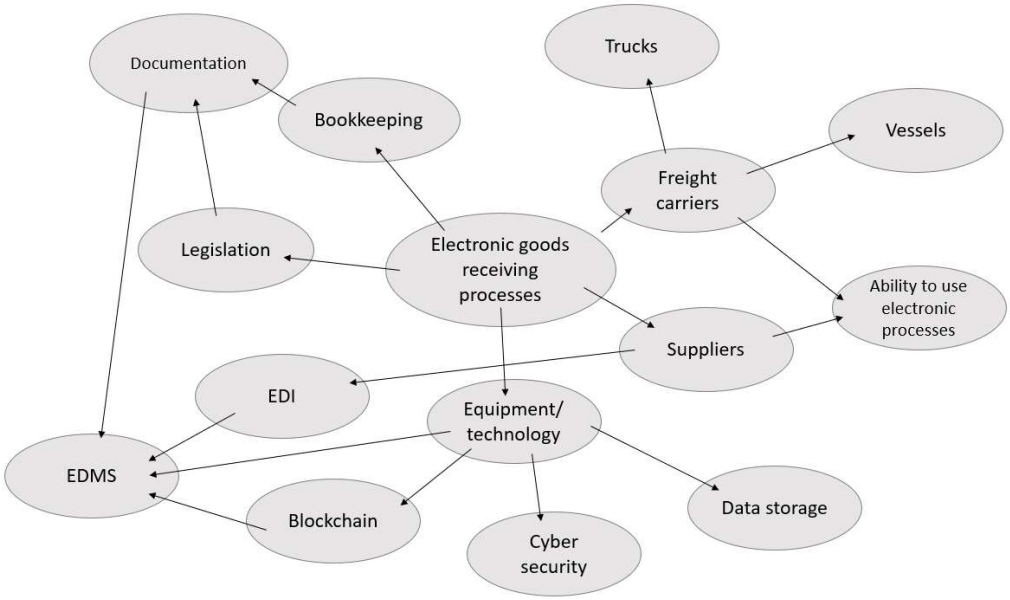

Figure 1. Conceptual frame of reference.

Above is the conceptual frame of reference for this thesis. It determines all the key concepts handled in this thesis as well as the sub-concepts. The key concepts for this thesis are definitely equipment and technology, suppliers, carriers, bookkeeping, and

legislation. In addition to these there are sub-concepts, which are somehow related to the main concepts.

The supplier's and the freight carrier's ability to use electronic processes is considered as a sub-concept, and is discussed in this thesis shortly since there is no reliable source of information about the supplier's or freight carriers actual abilities to implement electronic processes. All of the information about the suppliers and the freight carriers is based on the information Valmet Automotive has about them and the past experiences between the three concerning this matter.

Documentation is obviously a big part of this thesis, physical and electronic. Bookkeeping legislation and other legislative reasons for archiving documents is discussed in this thesis in terms of what has to be retained according to law but also from Valmet Automotive's point of view and what documents should be retained in paper form if any.

3 ELECTRONIC FORWARDING

Electronic information flow and digitalization of systems has become more common in the supply chain management as the processes have been developed. Digitalization of supply chain follows the lean principles of shorter lead times and removing bottlenecks, eliminating everything that does not add value (Klötzer & Pflaum, 2017.) Therefore, many companies have already transitioned towards paperless processes and why it is beneficial to do so.

Digitalization of supply chain and forwarding activities offers a competitive advantage to a company. Supply chain consists of strategic and operative exchange of information between suppliers (Korpela, Hallikas & Dahlberg, 2017.) Information integration is considered as an important business driver, and it is widely known that Business to Business (B2B) integration increases supply chain efficiency. Among

other benefits, digitalization of supply chain reduces costs and as mentioned earlier, reduces lead times. (Korpela, Hallikas & Dahlberg, 2017.)

Blockchain is a tool that might change the logistics and supply chain information flow and technologies in the future (Lim, 2018). Blockchain is a shared ledger using chronological encrypted and chained blocks to store data (Yuan & Wang, 2016.) The problem with other technologies, Internet of Things for example, is the dependency on mobile network operators which might cause a bottleneck in the process. (Lim, 2018.) With blockchain this is not a problem since it can be used without central authority. This creates transparency between the parties from the beginning to the end of the supply chain. (Cleworth, 2017.) The use of blockchain technology is not something to acquire at this point of time, but it does offer interesting opportunities and perhaps becomes a part of the supply chain in the future.

3.1 Electronic Data Interchange (EDI)

Electronic Data Interchange, EDI, is used in business-to-business communications to exchange documents and information electronically over a secured and standardized connection. EDI replaces postal mail, fax, and email. Documents are sent directly from the supplier's computer application to receiver's computer application (Website of Arcesb.) Whereas blockchain would offer a more straightforward approach to B2B information processing and is considered as the foundation for multi-enterprise business networks, EDI is more standardized methodology of exchanging data (Grewal, 2020.)

As the possibilities of blockchain are still being tested, EDI will most likely work together with blockchain. EDI will be feeding the data from one organization to another and connecting siloed applications to the network, the blockchain. (Grewal, 2020.) Most suppliers are already using EDI, and the compatibility of EDI between supplier and buyer is much better than with blockchain, which requires both parties to have the same type of blockchain. With EDI, service providers act as intermediary between supplier and buyer. (Vincent & Tadesse, 2020.) Valmet Automotive uses EDI

in the data exchange with suppliers, and this is further discussed in chapter 4.2, challenges for the organization.

3.2 Electronic Document Management System (EDMS)

Electronic Document Management System, EDMS, is a software used to store, create, share, and track documents within an organization (Harris, 2017.) Metadata, for example date/time stamp, author and title provide the contextual information which is required to understand, classify and/or categorize the content of the document. (Wolf, 2018.) EDMS organises and manages electronic documents and associated metadata, which makes it easy to search, trail and distribute documents. (Harris, 2017.) Electronic documentation also creates more accountability when the documents can be tracked and the history can be viewed by others in the organization (Downing, 2006.)

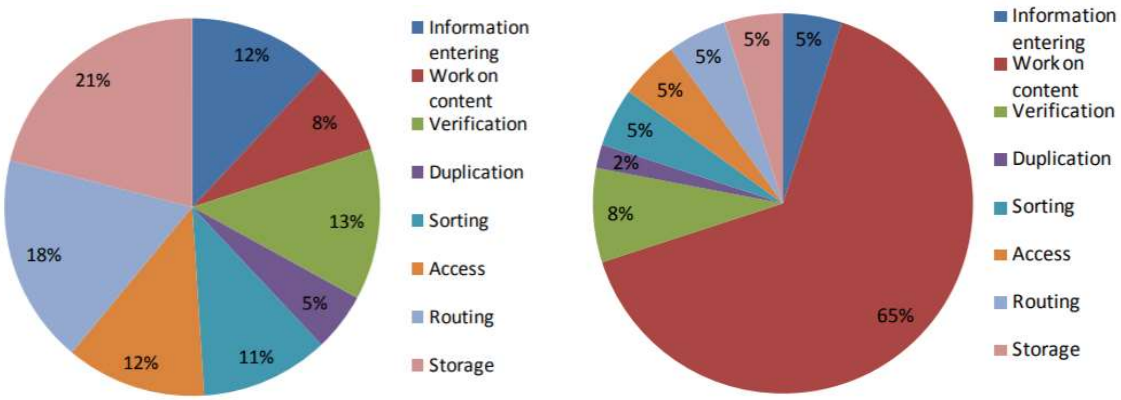

Figure 2. Time spent on individual stages of work in paper document management vs in electronic document management. (Burtylev & Mokhun & Bodnya & Yukhnevich, 2013)

In figure 2 above is illustrated the time spent on individual stages of work in paper document management and in electronic document management. It is obvious that implementing digital processes reduces the time spent on individual stages of work, and increases the time spent on working on the content. To find out the actual impact of EDMS implementation, it is essential to know the time spent on the current

documentation process whether it has some inefficient operations. (Burtylev & Mokhun & Bodnya & Yukhnevich, 2013.)

Employees of VA at the forwarding office archive all the documents in a cardboard box, which are regularly taken to archive. 150 trailers arrive to VA on a daily basis, which means at least one cardboard box every day full of paper documents. If these were to be scanned and organized to a EDM system, it would benefit many departments but mostly forwarding office and material bookkeeping. By having the documents in an electronic document management system, everyone in the organization would have access to the same documents, which would increase effectiveness and remove roadblocks.

3.2.1 EDMS security

Having all of the documents in an electronic form sets high security needs for the system. However, the organization must follow certain policies in order to ensure EDMS security. Documents should be retained only as long as obligated by the law or as long as needed for business purposes, and the access to documents should be restricted to only authorized employees and parties. EDMS enables to maintain the audit trail of documents, which adds security and transparency as the history of each document can be viewed. (Mooradian, 2008.)

3.3 Bookkeeping legislation

The Accounting Act 1336/1997 states that “the format of a voucher, ledger or other accounting material may be changed if it is necessary for processing, transfer or retention purposes. In this case, the maintenance of the contents and audit trail must be ensured” (Accounting Act, 2nd chapter, 7§, 2015/1620.) This means that the format of the documents needed in forwarding can be changed to electronical as long as the contents remain the same and the audit trail can be tracked.

The Accounting Act also states under section 9 of 2nd chapter that all of the accounting material must be retained carefully so that they can be reviewed by an authority without delay. The accounting material must be retained for at least six years after the end of the year during which the financial year ended (Accounting Act, Chapter 2, 10§.)

There is no law or regulation which would prevent transferring these documents into electronic form. The only document that Valmet Automotive is obligated to retain in original form is the ATR-certificate, a customs document concerning free trade between EU and Turkey. Some EU countries want to have a signed and/or stamped CMR document for VAT purposes, and Valmet Automotive must be able to provide this document for the suppliers.

3.4 Security concerns

Cyber-security is obviously an issue that should not be taken lightly. The freight transport information passes through various systems with very different IT infrastructures and cyber-security standards. With blockchain, there would be no need for private booking systems, which would add security. (Lim, 2018.) Blockchain technology is considered very secure and safe, which is why it has been presented as an option for logistics and supply chain processes.

Introducing the blockchain technology into the logistics and supply chain operations will increase the transparency of the actions, as well as reduce bureaucracy. Instead of each party having their own copies, all the stakeholders will have access to the same, shared data. All the transactions and messages are cryptographically signed, which ensures security. (Heutger, 2018.)

4 GOODS RECEIVING PROCESS

To be able to determine the biggest pitfalls and possibilities concerning digitalization of the current process, the process must be completely understood. There are two types of goods Valmet Automotive receives, JIT and JIS parts. JIT (Just In Time) goods follow the Lean principles of minimum inventory, delivering parts in the needed quantity for the immediate need. (Horner, 2018.) JIS parts (Just In Sequence) means that the parts are delivered in the specific order that they are required in, which increases efficiency. (Horner, 2018.)

JIT parts are manually ordered by the material planners, whereas JIS parts are ordered automatically based on the stock which is regularly corrected manually. Everything until the trailers arrive to Valmet Automotive is done electronically, where the forwarders then handle the documents received with the arriving trailer. The forwarder checks the unloading plan to see what the planned unloading time for that specific trailer is, and from the unloading plan can also be seen the name of the supplier and the carrier. The production numbers for JIS parts must be manually added to the system.

After this the forwarder creates a new shipment based on the paper documents and the papers are printed out as an unloading instruction for the unloader. If the incoming parts are JIS parts, the forwarder must manually write the production numbers from the unloading plan to the unloading instructions and the expected number of packages that can be seen from the shipping documents. After this, the trailer can be unloaded, and the unloader will return the unloading instructions back to forwarding office after unloading is completed.

If there must be corrections done, for example received amount is different from the amount displayed on papers, the unloader brings the unloading instructions back to forwarding office and the forwarder makes the necessary corrections. If the actual delivered quantity is zero, the unloader will delete the receiving. Forwarding office and material planners will take care of the quantity differences in terms of creating Delivery Claims Report (DCR) to the supplier.

4.1 Issues in the process

Since the process is currently dependent on paper-based documentation, it increases the risk of mistakes in the process, for example tracking the goods and the status of the shipment. The process also lacks trust between stakeholders in information sharing because of the security issues. (Heutger, 2018.)

The shipping documents might be incomplete or missing altogether, or it might be missing a passport if the parts are coming outside the European Union. In these cases, the forwarder must contact the suppliers or transportation company in order to receive the missing documents. Even though the existing systems already have large amounts of data, the process relies on physical papers because the data is not used efficiently, and the systems are perhaps even lacking some vital features which would allow the process to be completely paperless.

When a shipment arrives to Valmet Automotive, the receiving is done based on the ASN's in the system and the paper documents. However, often there is false receiving either because the ASN was incorrect or the papers had false information. If the data put in the system by the supplier would be the same as in the paper documents, there would be less mistakes in the process. When the shipment arrives, the assumption is that the information is correct in the system. Otherwise, the process would take much more time.

Many of the suppliers and carriers have already transitioned to electronic systems and processes, but not all of them. Since Valmet Automotive is currently facing some issues with certain suppliers and carriers concerning ASN's and necessary documents, the implementation of electronic processes must be carefully planned. It does not generate trust between Valmet Automotive and suppliers and/or carriers to change the process if the current process is not functioning properly.

4.2 Challenges for the organization

One challenge the organization is facing is the difficulty to get the needed information from suppliers. Of VA's 700 suppliers, most of them send the ASN information through EDI-connection (Electronic Data Interchange), but some suppliers are not a part of the EDI-portal which means that they are unable to send the ASN data for VA. Anything these suppliers with no EDI-connection send, must be manually reported to the system. It would be a challenge for the organization to still be able to handle these suppliers electronically even though they do not have EDI-connection.

The reason why some suppliers are not part of the EDI-portal is because they do not have the required systems nor the will to acquire one. For VA, these suppliers include Veme, Stera and parts coming via TNT and DHL. Having only one source of information would create more trust to the process and between the stakeholders, whereas the current process relying on paper documents as well as the data in the system causes confusion and mistakes. It would benefit both parties greatly to have all the suppliers in the EDI-portal.

Other challenge concerning the whole organization is to have everyone on board with the electronic documentation. Currently many processes in the organization rely heavily on paper documentation, even when there would be the possibility for electronic documentation. The roles and responsibilities of different departments must be acknowledged before the implementation can be executed. For the implementation to be successful, every single person in the organization must be willing to co-operate, and the organization must be able to offer enough training for its employees.

4.3 SWOT analysis of the current state

Below is the SWOT analysis for VA concerning the current state and the possible implementation of electronic goods receiving process.

Strengths	Weaknesses
- Lot of data already available	- Organization relies heavily on paper documentation
- Skilled and knowledgeable employees	- Complex computer systems
Opportunities	**Threats**
- Green choice	- Implementation failures, system failures
- Increasing transparency	-All suppliers not co-operative
- Saves time and reduces costs	- Security threats

Figure 3. SWOT analysis of the current state.

As a strength, VA definitely has a lot of data in the systems already available and to be used. This means that very little or none of data needs to be transferred into any systems, and this saves the organization time and costs when transitioning to electronic processes. The base is already there but it has to be enhanced and refined. The employees working at VA are very skilled and knowledgeable and will definitely tackle any issues that come with the implementation.

One the organization's weakness is definitely the fact that many departments rely heavily on paper documentation still, even though there is no need to. Perhaps it is still unclear which documents need to be saved and which are needed later on, so a lot of unnecessary work is done by archiving papers that are never looked at again. It should be clear for all departments which documents have to be archived and for what use.

Other weakness within the organization is that the computer systems needed in the goods receiving process are rather incoherent and even complex. To have efficient

and functional electronic forwarding process, the system must be clear and reliable. Currently for the goods receiving process, six different software's are needed. The transition to completely electronic processes would perhaps require reconsidering the functionality and reliability of the current systems used in the process.

Electronic forwarding is definitely an opportunity for the organization to become more sustainable and reduce the organization's carbon footprint. It will also reduce costs (paper, printers, and ink for example) for the organization and save time. Other opportunity electronic forwarding process offers is transparency between stakeholders. This creates more trust between parties and increases efficiency.

One obvious threat is implementation failures or system failures. Ideally the process must be operating electronically from start to end with zero errors. This might also be causing the organization added costs if the implementation is not successful. There are many reasons why the implementation could fail, which are further discussed later on this thesis.

One threat is definitely the fact the not all of the suppliers are co-operative concerning electronic processes. As said before, not all suppliers have EDI connection with VA, which causes errors and challenges for the organization. When transitioning to electronic processes, the suppliers with no EDI connection might cause even more issues and work for the organization and its employees.

4.4 How electronic processes would benefit the company

Currently the forwarding office is saving all the shipping documents and unloading instructions and they are put in a cardboard box and archived. This means massive amounts of paper each day, most of it which is never looked at again. However, sometimes later some of the documents must be further examined and must be searched from the archive. The papers are filed by numbers, which makes it easier to look for the right documents, but it is still time consuming when it could be done by searching for example by number from the database.

It should be acknowledged, that document management system (DM) only stores documents, not the information they contain. This means that the efficiency it provides is purely based on document storage and retrieval, not on the performance of individuals or their use of the information. (Raynes, 2002.) Benefits of EDMS (electronic document management system) provides besides storing documents are for example ability to modify documents, monitoring the changes and audit trail, security processes, searching by text, routing documents from one user to another and organizational processes, such as organizing the documents into related folders. (Raynes, 2002.)

Some of the carriers (for example DSV) are already using electronic processes in their actions, and therefore both of the parties would benefit greatly from transitioning to electronic processes in forwarding.

5 EXISTING DATA AND SYSTEMS

VA already has plenty of data in the existing systems, which eases the implementation process. However, the systems are somewhat incoherent, and complex as mentioned earlier, which might need further examination and consideration before the implementation can be executed. In the goods receiving processes, SAP/Fiori, VATRP and Fidaware are the most used systems. Other systems used for forwarding processes or actions related to forwarding are Lean, DISCO and Prosped, which are briefly discussed in the following chapters.

5.1 SAP/Fiori

For JIT suppliers, the delivery schedules, which include information on shipment quantities and dates, is sent from SAP, and changes to scheduling lines and sending call offs is done in Fiori. (Tuominen, 2019.) The ASN errors and exception handling

(quantity and packaging corrections, idoc handling) is done in SAP as well as inbound delivery monitoring.

5.1.1 Lean and DISCO

For JIS suppliers, messages are sent daily from Lean system. DISCO contains information of which materials have been sent based on production numbers. This information contains production number, delivery note, trailer number, pick up date and supplier ID number. (Tuominen, 2019.) Material planners create an Excel-file based on this information received from DISCO, which the unloading team uses for unloading material. (Tuominen, 2019.)

5.2 VATRP

VATRP has the unloading plan, which the forwarding office uses to check the schedule once the trailer arrives to VA. The pick-up and receiving calendars are in VATRP, and when there are changes made to these calendars, the system automatically sends information to SAP, which makes the call-off creation possible with Fiori. (Tuominen, 2019.)

5.3 Fidaware

The receiving of JIT material is done in Fidaware, where the unloader will also make the necessary corrections if required. If the received materials do not match the unloading instructions (paper), it is written on the paper by hand and corrected to Fidaware, typical divergences are with package codes, material quantities and reference numbers. After the goods are received and confirmed in Fidaware, it updates the materials and quantities to SAP. (Tuominen, 2019.)

5.4 Prosped

Prosped is a system used for customs clearance. If the clearance is done at the point of entry, the transportation company informs VA's customs department who custom clear the incoming goods and send a certificate of release for the transportation companies. If the custom clearance is done at arrival, the forwarder requests an unloading permission from the customs office. The goods **should not** be unloaded until the unloading permit is received via Prosped. (Tuominen, 2019.)

6 IMPLEMENTATION OF NEW TECHNOLOGY

When implementing a new software or a technology within an organization, the technology should not be expected to change the organizational culture. 20 percent of the effort should be focused on the technology and 80 percent on the organizational culture issues. Whether the scanning of the documents is outsourced or not, the organizational culture must change. Document management being a part of every employee's job, everyone must be able to use the system, how to file documents and where to find them. (Downing, 2006.)

The implementation process should be as transparent as possible and classifying documents should be ingrained in the daily processes. Telling the employees truthfully what to expect from the implementation and the system is important, because that way the employees are not setting their expectations too high and become disappointed if the system does not deliver as it should. (Downing, 2006.)

Communicating with the employees cannot be emphasized too much. Organization must be ready to offer enough training for the employees and keep everyone informed on what is happening. Informing employees on the benefits of a new system is a way to get them to adopt new habits and processes. It is also important to involve the right people in the implementation process. Motivated people who are willing to work to

make the process better are a vital element in a successful implementation. (Downing, 2006.)

Before implementation can be started, the current process must be understood and the ideal future process should be mapped out. There are many sources of documentation which must be reviewed, such as documents from suppliers or third-parties, other in-house systems, and email. It is easier to change the process than the software, which should be kept in mind when thinking about possibilities for electronic processes. (Downing, 2006.)

Other thing to consider before implementing a new process or technology is can it be outsourced, and if yes, should it be? Questions that should be answered when deciding between outsourcing and in-house scanning are for instance the following:

- What is the amount of documents to be scanned?
- Are there enough employees to perform the work?
- Is the required equipment and software available?
- Is there a certain deadline for the implementation?

Outsourcing is typically the best option for big organizations, because it would be less stressful and would probably result in a more efficient and higher quality digital conversion with less errors. The overall cost of outsourcing has in many cases proven to be less than in-house scanning. (Harris, 2017.)

Having multiple different systems in the organization requires the systems to inter-communicate and inter-connect. The existing systems must be integrated with each other in order to achieve a successful implementation. The integration of infrastructure environments is a complex but necessary process. (Abdulkadhim & Bahari & Bakri & Hashim, 2015.)

7 RESEARCH

The following chapters discuss the research design and strategy, research method, data collection and analysis and the validity and reliability of this thesis and its sources.

7.1 Research design and strategy

This thesis follows mostly the explanatory research principles, as it focuses on studying the possibilities in electronic forwarding processes. However, this thesis also has some qualities of descriptive research as it tries to produce an accurate representation of the future goods receiving process. The hypotheses for this thesis could be “it is possible to transition to completely paperless goods receiving process at Valmet Automotive”.

Strategy for this thesis follows case study principles, but instead of answering the question “why?” it rather focuses on answering the question “how?”. However, the questions “what?” and “why?” are also answered and discussed in this thesis. This thesis uses multiple sources of evidence which is typical for a case study. The aim of this thesis in addition to its core purpose is to understand the meaning of electronic processes and its importance in the modern supply chain.

7.2 Research method

Research for this thesis uses mostly qualitative methods. Data collection has been done partly in work environment which provides more in-depth understanding of the situation. This represents qualitative research method. This thesis follows mostly deductive approach, since the outcome of this thesis is to determine the possibilities of implementing electronic forwarding at Valmet Automotive.

7.3 Data collection and analysis

The data collection focuses mainly on secondary data, which includes articles and studies made on the topic. There is no survey or other executed specifically for this thesis by the author. The primary source of data includes mainly the information gathered from work environment and another research executed before by the stakeholder. The data collected by the author begun in January 2020 whilst working at Valmet Automotive, and continued until the end of August 2020.

Secondary data gives access to large amounts of data, but as this topic is very business-specific after all, it does not meet all the research needs. The topic is fairly new to business and supply chain management, which means that there is hardly any literature on the topic. This means that most of the data must be gathered from articles and research.

Qualitative methods for data collection used in this thesis include secondary data, such as different documents from the stakeholder's internal sources but also from external sources, such as articles and internet sources. Data is also collected by having unstructured interviews with the stakeholder. The data is then further analyzed and examined to create improvement suggestions for the current process as well as a preliminary implementation plan for further actions concerning the transition to paperless forwarding.

7.4 Validity and reliability

The validity and reliability of the data is partly questionable in such way that the subject is fairly new and therefore literature on the subject is quite nonexistent. The data relies on research and articles, which are partly assumptions and guesses, because facts and knowledge is not yet available. However, there is reliable information available on systems and software's which can be used for electronic processes and storing documents in electronic form. Electronic processes are being introduced in fast pace at the moment, but there is not much factual data available on this topic yet. The

data from the stakeholder's own database is valid and reliable because it is based on the stakeholder's own systems and ways of acting.

8 RESEARCH RESULTS

It is obvious that electronic processes are in the future of supply chain management and almost inevitable transition for every organization. Electronic processes offer a lot of interesting possibilities for companies to increase efficiency and for example create transparency between stakeholders. As mentioned earlier, transitioning to paperless processes not only saves money but also saves time once implemented successfully.

As for security issues concerning electronic processes, there will always be security risks but with new technologies the security has also been improved. From the legislative point of view there is no reason why Valmet Automotive could not transition to electronic forwarding process, as long as the documents are archived in a way that the audit trail can be tracked. ATR-document, a free trade document between Turkey and EU, is the only document that must be retained in its original (paper) form.

Valmet Automotive essentially has all the needed information about the incoming goods in the system (part numbers, quantities, trailer number, supplier information and delivery note). Even though the system has all the needed information, the system itself is a bit clumsy when considering the process and its ideal execution. Perhaps there should be adjustments done to the system or the process for it to be more functional to its purpose. Currently VATRP holds most of the information about the incoming goods and sends information to SAP/Fiori.

In theory, there is **no reason** why Valmet Automotive could not transition to electronic forwarding process. The biggest concern comes with how the implementation should be done in the organization for it to be successful, and in practice it would not be rational to make the transition from paper documentation to completely paperless

process at the moment. It must be acknowledged that Valmet Automotive has around 700 suppliers, and it probably will not be possible to handle each supplier the same way. Currently there are suppliers that are handled manually, which will most likely stay that way if the suppliers are not willing to acquire systems and processes which will work together with VA.

Completely paperless process should however be a future goal for VA. The possibilities are definitely existent and the transition towards paperless processes should be initiated as soon as possible.

9 IMPROVEMENT SUGGESTIONS

This chapter describes how the ideal forwarding process would work. Having the documents arrive to VA in electronic form is not a realistic goal at the moment according to VA's IT department, even though it would be theoretically possible. One step closer to paperless forwarding process would be scanning the documents.

Ideally, in a process that is completely paperless, the trailer would arrive to VA without paper documents, and the trailer number would be used to search for the correct trailer information from the system. The receiving of goods would be done based on the information the supplier has sent via EDI to SAP/Fiori and VATRP. Unloading instructions would still be printed out and any quantity differences would be corrected manually by the forwarder after the unloader has finished unloading.

However, as said before, completely paperless forwarding process is not a realistic goal at the moment for VA. A more suitable solution would be scanning the documents into an Electronic Document Management System (EDMS). The forwarder would scan the documents into the system or the scanning process could also be outsourced. There are scanner software's which can be integrated with SAP, which means that all of the scanned documents could be archived in SAP. This solution would make the

documents available for each department, which would accelerate processes and save time.

10 IMPLEMENTATION SUGGESTIONS

When deciding to implement a new system or process, the organization must understand the importance of communication and training. The organization must be able to provide education before, during and after the implementation. Any resistance from the employees should be addressed at early stage with proper manner to ensure a successful implementation. Whoever needs to access the documents must be included in the training, which involves departments outside the forwarding office as well.

The employees should be taught on the benefits of applying electronic processes to gain understanding throughout the organization on why the implementation is done. Sharing information regarding the implementation will also help to get the employees on board with the process once they understand that they are a vital element in the process of acquiring a new technology. After all, the benefits of electronic documentation are fully exposed when the process is completely inherent.

The organization should gather a team specifically for the implementation management. The implementation management team should consist of people who are motivated and willing to work in order to accomplish a successful implementation. The team should include people from different departments of the organization, which would provide a variety of perspectives and knowledge, as well as people who are ready to support the employees in learning a new process.

The organisation should consider whether to outsource the scanning of the documents, which is done by one other department already, or if the forwarding office should scan the documents. The scanning of the documents is going to take more time than archiving them, but it will be more time consuming to search for the documents from the archive than from the system.

11 CONCLUSION

The purpose of this thesis was to determine the possibilities for electronic forwarding process at Valmet Automotive Uusikaupunki. The aim was to clarify and understand the current goods receiving process and determine its issues. The systems and software's used in the goods receiving process were introduced and explained in order to understand how they are all included in the forwarding process. Accounting Act is further examined to clarify that there are no legislative barriers for electronic documentation. However, there are some documents that must be retained in paper form, such as customs (ATR) documents.

Electronic processes were discussed in general and the possibilities they offer for organizations. Electronic Data Interchange (EDI) is used by most of Valmet Automotive's 700 suppliers to send ASN data. Electronic Document Management System (EDMS) would offer the possibility to store, create, share, and track documents. By scanning the documents in to an EDMS, everyone in the organization would have access to them, which would create efficiency.

The main challenges for the organization when acquiring new electronic processes comes with suppliers who are not part of the EDI-portal. These suppliers must be handled manually which is time consuming. Other challenge is how the implementation can be done successfully in the organization, when there are many departments relying on paper documentation at the moment.

A SWOT-analysis is made to determine the main strengths, weaknesses, opportunities, and threats. As strength, there is already lot of data available in the system and the employees of VA are very skilled and knowledgeable. The organization's weakness is that it relies quite heavily on paper documentation and the computer systems are complex, which sets challenges for the implementation. Paperless office is a green choice, which is an opportunity for the organization. Paperless processes also increase transparency and save time and reduce costs. Threats for the organization are implementation failures, system failures, security threats and the fact that all suppliers are not co-operative.

As a research result, there is no reason why Valmet Automotive could not start transitioning to paperless processes. There is a lot of data already existing in the systems which is needed in the goods receiving process. However, a completely paperless process is not a realistic goal for Valmet Automotive at the moment. The possibilities are still there and should be further explored by Valmet Automotive for future references.

Paperless documentation solutions should however be introduced to forwarding processes. Other departments at Valmet Automotive have outsourced scanning of documents, which would be a good option to consider for forwarding office as well. There are several things to consider before and during an implementation of new processes and systems, of which the most important one is organizational culture. Communicating with the employees and offering them enough training is a crucial part of successful implementation.

In conclusion, Valmet Automotive has the ability and readiness for paperless processes. The organization itself feels like the transition to completely paperless forwarding process is not yet a realistic goal, but it is definitely a step to be taken in the near future. By introducing an Electronic Document Management System, the organization could begin the transition towards completely paperless processes.

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